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Environmental Protection

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Code Sections Affected
Water Code §§ 1014, 1015, 1016, 1017 (new), 1011, 1707, 1728 (amended), 1726, 1727, 1732 (repealed and re-enacted).
SB 970 (Costa); 1999 STAT. Ch. 938

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"'[E]verything is in the process of changing or becoming' in water law."[1]

I. INTRODUCTION

Water plays a vital role in the development and maintenance of California's enormous wealth and in the growth of the State's population.[2] Unfortunately, California's water supply is unevenly distributed, with most precipitation falling on the northern portion of the State during the winter months.[3] To increase the stability of the water supply, government and private entities have constructed elaborate physical structures to capture the run-off during wet periods, store the water until dry periods, and transport the water to areas in which it is needed.[4]

As a complement to the physical water management structures, California's Legislature, its judiciary, and its various regulatory agencies have developed an elaborate body of laws designed to control how water should be allocated during times of shortage.[5] However, when supplies dropped alarmingly below normal during the later years of the 1987-1992 drought, these laws alone proved to be insufficient to allocate water for competing uses, and the State was forced to take unprecedented emergency measures.[6] Although the years since 1992 have generally

1. Imperial Irrigation Dist. v. State Water Resources Control Bd., 225 Cal. App. 3d 548, 573 (1990) (quoting Eric T. Freyfogle, *Context and Accommodation in Modern Property Law*, 41 STAN. L. REV. 1529, 1546-47 (1989)).

2. Wade Graham, *A Hundred Rivers Run Through It; California Floats Its Future on a Market for Water*, HARPER'S MAG., June 1998, at 51, 51.

3. ARTHUR L. LITTLEWORTH & ERIC L. GARNER, CALIFORNIA WATER 2 (1995).

4. *See id.* at 16-26 (detailing the Central Valley Project and the State Water Project—the two main features of California's physical water infrastructure).

5. *See* 1 SCOTT S. SLATER, CALIFORNIA WATER LAW AND POLICY §1.02.1 (1999) (noting that water laws provide the basis for allocation of the finite resource during times of shortage).

6. *See* Richard W. Wahl, *Market Transfers of Water in California*, W-NW. J. ENVTL. L. POL'Y THOUGHT, Spring 1994, at 49, 53-54 (describing the highly regulated water market established late in the drought of 1986-1992 in order to overcome the inability of then-existing water law to efficiently allocate water during severe shortages).

provided California with adequate precipitation and water supplies,[7] the emergence of the next extended drought will occur in only a matter of time.[8]

According to at least one commentator, one of the lessons that water managers learned from the last drought is that water transfers may encourage water users to adapt their practices much earlier in each drought event.[9] Chapter 938 attempts to prepare California water law for the next extended drought using the relatively recent development of temporary water transfers to provide both increased certainty of water rights and increased flexibility to meet the State's ever-changing water-supply needs.[10]

This Legislative Note will discuss the provisions of Chapter 938, describing its effects upon California water law. First it will summarize, in broad fashion, California's laws governing water rights and water transfers.[11] Then it will examine the water laws affected by Chapter 938's passage,[12] followed by a detailed description of the specific provisions of Chapter 938.[13] Finally, this Legislative Note will analyze the new law's provisions in terms of their anticipated effects upon California water law.[14]

II. SUMMARY OF CALIFORNIA WATER RIGHTS AND TRANSFER LAWS

A. Overview

Under California law, the State owns all surface water and groundwater, but individuals or other entities may acquire the right to use that water.[15] The exact nature of this usufructuary right varies depending on whether the right applies to

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7. *See* California Department of Water Resources, *The California Water Plan Update Bulletin 160-98, Chapter 3, Water Supplies* (last modified Jan. 1999) <http://rubicon.water.ca.gov /pdfs/v1/v1ch3.pdf> (copy on file with the *McGeorge Law Review*) (describing the mild drought year 1995 and the floods of 1997).

8. *See* Noel Brinkerhoff, *Water Marketing: Let's Make a Deal*, CAL. J., August 1999, at 12, 12 (describing the next serious water shortage in California in terms of "*when*, not *if*," it will happen).

9. *See* Wahl, *supra* note 6, at 58 (concluding that market-based water transfers could have served to ameliorate the impacts of the drought prior to the massive Drought Water Bank undertaking in 1991).

10. *See* SENATE COMMITTEE ON AGRICULTURE AND WATER RESOURCES, COMMITTEE ANALYSIS OF SB 970, at 1 (Apr. 20, 1999) (declaring that the purpose of SB 970 (Chapter 938) is "to clarify certain definitions in existing water transfer law . . . and to streamline the administrative process for approval or denial of water transfers").

11. *Infra* Part II. The scope of the discussion of California water law necessarily will be quite brief. For a more detailed discussion of California water law, see LITTLEWORTH & GARNER, *supra* note 3, *passim*; 1 SLATER, *supra* note 5, *passim*; William R. Attwater & James Markle, *Overview of California Water Rights and Water Quality Law*, 19 PAC. L.J. 957, *passim* (1988).

12. *Infra* Part III.

13. *Infra* Part IV.

14. *Infra* Part V.

15. CAL. WATER CODE § 102 (West 1971).

surface water, which is generally found in lakes and streams,[16] or groundwater, which is located in underground aquifers and must be extracted through wells.[17] California water law regulates surface water and groundwater separately.[18]

1. *Surface Water Rights*

In California, rights to use surface water fall into two main doctrinal categories: riparian and appropriative.[19] Riparian water rights are usufructuary rights appurtenant to certain types of lands adjacent to rivers or lakes.[20] Under existing law, owners of riparian lands are entitled to use water from the adjacent watercourse only for reasonable beneficial uses on that property.[21] Due to the restriction of riparian rights to parcels contiguous to surface waters, riparian rights are by far the least common form of surface water rights in California.[22]

Unlike riparian rights, the appropriative rights doctrine allows water to be diverted from a watercourse and used for a reasonable beneficial purpose on land which may be far away from the water source.[23] A key feature of the appropriative rights doctrine allows for those who first began diverting water from a particular lake or stream to have priority over those who began so diverting later—meaning that in times of shortage, the most recent appropriators are the first to lose their water supplies.[24]

2. *Groundwater Rights*

Under California law, all landowners overlying a groundwater basin have equal rights to the water contained in the basin, and, under certain conditions, non-

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16. *See id.* § 1200 (West 1971) (including surface streams and lakes, as well as subterranean streams which flow through known and definite channels, in the definition of surface water).

17. *Compare id.* (including subterranean streams flowing through discrete channels in the definition of groundwater), *with id.* § 1005.1 (West Supp. 2000) (defining "ground water" as including all underground water, whether or not flowing through discrete subterranean channels), *and id.* §1221 (West Supp. 2000) (mandating that nothing in California water law shall be construed to authorize the State Water Resources Control Board (SWRCB) to regulate groundwater).

18. *See* LITTLEWORTH & GARNER, *supra* note 3, at 48-49 (noting that California water law actually recognizes three types of groundwater: that which is located under and flows along with surface streams; that which flows in discrete underground channels; and all other types. Underflow of surface streams and water flowing through discrete underground channels are regulated as surface water.).

19. *Id.* at 29-47.

20. Lux v. Haggin, 69 Cal. 255, 390-91, 10 P. 674, 753 (1886) (defining riparian water rights as the property owners' right to use water from a natural watercourse abutting their property, and stating that riparian rights are part and parcel of property which abuts a natural watercourse).

21. People v. Shirokow, 26 Cal. 3d 301, 307, 605 P. 2d 859, 864 (1980).

22. LITTLEWORTH & GARNER, *supra* note 3, at 33-34.

23. 1 SLATER, *supra* note 5, § 2.01.

24. *Id.* § 2.02.

overlying landowners may withdraw and use the groundwater.[25] While no statewide permit system currently governs the use of groundwater,[26] local governments may be able to use police power to regulate the pumping and use of groundwater.[27] In general, landowners or other groundwater rights holders may pump groundwater for exportation to other groundwater basins so long as "overdraft"[28] will not result.[29]

3. State Regulation and the Reasonable Use Requirement

Since 1914, all new and modified rights to use surface water are subject to regulation by the State Water Resources Control Board (SWRCB).[30] Entities seeking to establish a new right or to alter an existing appropriative right must obtain a permit from the SWRCB.[31] The SWRCB is responsible for enforcing[32] the primary legal directive guiding use of water in California—the reasonable use doctrine.[33] Under this doctrine, unreasonable use of water can lead to loss of all or part of any surface water right.[34]

B. Water Transfers

In response to extended periods of drought in the 1970s, the California Legislature enacted laws encouraging the voluntary transfer of water among users.[35] Unlike the strict regulatory approach in existence for surface waters since 1914, these laws sought to increase the efficiency of water use, particularly during times of shortage, by enunciating a statewide policy to encourage a free-market approach to allocating water held under appropriative rights.[36]

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25. LITTLEWORTH & GARNER, *supra* note 3, at 49-50.

26. *See* CAL. WATER CODE § 1221 (West Supp. 2000) (prohibiting the SWRCB from regulating groundwater in any manner).

27. *See, e.g.*, Baldwin v. County of Tehama, 31 Cal. App. 4th 166, 171, 36 Cal. Rptr. 2d 886, 888 (1994) (upholding a county ordinance regulating groundwater pumping).

28. Overdraft is typically defined as the pumping of groundwater from a basin faster than it can be naturally replenished. 1 SLATER, *supra* note 5, § 1.13.

29. *See* CAL. WATER CODE § 1745.10 (West Supp. 2000) (limiting exports of groundwater to only those basins with groundwater management plans).

30. 1967 Cal. Stat. ch. 284, sec. 2, at 1442 (enacting CAL. WATER CODE § 174).

31. CAL. WATER CODE § 1250 (West Supp. 2000).

32. *See id.* § 275 (West Supp. 2000) (assigning to the SWRCB and the Department of Water Resources the task of preventing unreasonable use of water).

33. *See* CAL. CONST. art. X, § 2 (requiring reasonable methods of use, reasonable methods of diversion, and beneficial uses of water).

34. *Cf.* Joslin v. Marin Mun. Water Dist., 67 Cal. 2d 132, 141-45, 429 P. 2d 889, 895-98 (1967) (holding that to the extent that a particular use is unreasonable, it is not part of a water right).

35. *See, e.g.*, 1982 Cal. Stat. ch. 867, sec. 1, at 3220 (amending CAL. WATER CODE § 109(b)) (declaring a statewide policy of encouraging voluntary water transfers to effect efficiency of use).

36. LITTLEWORTH & GARNER, *supra* note 3, at 225-29.

Existing law allows holders of appropriative water rights to sell any water saved through conservation efforts without losing their water rights.[37] Parties who transfer water this way must report the transfers to the SWRCB.[38] While the prior definition[39] of water conservation included water conserved through fallowing[40] of agricultural land, prior law made no distinction between temporary and permanent fallowing.[41]

III. PRIOR AND EXISTING LAW

Existing law provides some protection to appropriative water rights holders who participated in temporary water transfers.[42] In addition, rights holders are allowed to transfer water made available through conservation efforts.[43] Existing law also allows appropriative as well as riparian water rights holders to transfer water to instream[44] uses in order to benefit wildlife and aquatic plants.[45] However, prior law did not allow the transferor to specify which portion, if any, of the transferred water was to be dedicated to federal- or state-mandated wildlife programs.[46]

The law in place before Chapter 938's passage required a specific notice requirement in preparation for temporary water transfers.[47] In addition, prior law gave the SWRCB no deadline to approve or deny a water transfer,[48] and required the SWRCB to evaluate the proposed transfer in order to determine whether the transfer would meet or harm the goals of the State.[49] Finally, prior law did not

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37. CAL. WATER CODE § 1011(b) (amended by Chapter 938).

38. *Id.*; *id.* § 1726(a)(1) (amended by Chapter 938).

39. 1996 Cal. Legis. Serv. ch. 408, sec. 1, at 95-96 (amending CAL. WATER CODE §1011(b)).

40. Fallowing is generally defined as the non-use of agricultural land for a season or more. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 819 (1981) (defining "fallow" as "land ordinarily used for crop production when allowed to lie idle either in a tilled or untilled condition during the whole or the greater portion of the growing season").

41. 1996 Cal. Legis. Serv. ch. 408, sec. 1, at 95 (amending CAL. WATER CODE §1011(a)); *see id.* ("Where water appropriated for irrigation purposes is not used by reason of land fallowing or crop rotation, the reduced usage shall be deemed water conservation for purposes of this section.").

42. *See id.* (enacting CAL. WATER CODE § 1011(c)) (stating that upon completion of a water transfer, "the right to the use of the water shall revert to the transferor as if the transfer had not been undertaken").

43. *Id.* at 95-96 (amending CAL. WATER CODE §1011(b)).

44. *See* 2 SLATER, *supra* note 5, at § 13.13 (defining instream uses as including the maintenance of aquatic habitats).

45. *See* 1991 Cal. Stat. ch. 663, sec. 2, at 3043-44 (enacting CAL. WATER CODE §1707(a)) (allowing rights holders to petition the SWRCB for changes aimed at plant- or animal-life preservation or water recreation).

46. *Id.*

47. 1991 Cal. Stat. ch. 663, sec. 3, at 3044 (amending CAL. WATER CODE § 1726).

48. *See* 1988 Cal. Stat. ch. 1145, sec. 3, at 3676 (enacting CAL. WATER CODE § 1727(c)) (requiring the SWRCB merely to notify the proposed transferor if the evaluation would take more than sixty days).

49. *Id.* (enacting CAL. WATER CODE §1727(a)).

address whether the transferor could increase groundwater pumping to replace any transferred water.[50]

IV. CHAPTER 938

A. *New Definitions and Strengthened Transferor Rights*

Chapter 938 tightens the definition of water conservation under section 1011 of the California Water Code by allowing transfers of irrigation water where the irrigation water has been conserved through temporary land fallowing, but not where irrigation water has been conserved through permanent land fallowing.[51] Chapter 938 strengthens appropriative water rights by specifying that neither the transfer of water nor any offer to transfer water can form a basis for any change in water rights.[52] In addition, Chapter 938 declares that water transferred under section 1011 is by definition a beneficial use.[53]

Chapter 938 also makes significant clarifications of the rights and responsibilities of water transferees.[54] The new law mandates that reasonable beneficial use requirements be enforceable against the transferee, and that any violations of such requirements lead to a reversion to the transferor.[55] In addition, Chapter 938 removes the ability of a water transferee to validly claim any right to the water supplied under any transfer agreement.[56]

B. *Notice and Petition Requirements*

Chapter 938 focuses the notice requirement for temporary transfers by mandating that all interested parties receive notice.[57] Prospective transferors must now submit detailed petitions to the SWRCB for temporary water transfers.[58] Moreover, the new law also details the procedural requirements for protests against

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50. SENATE COMMITTEE ON AGRICULTURE AND WATER RESOURCES, COMMITTEE ANALYSIS OF SB 970, at 1 (Apr. 20, 1999).

51. *See* CAL. WATER CODE § 1011(a) (amended by Chapter 938) (defining temporary land fallowing to include only those land practices which "involve the use of water . . . in the course of normal and customary agricultural production to maintain or promote the productivity of agricultural land").

52. *Id.* § 1014 (enacted by Chapter 938).

53. *Id.* § 1017 (enacted by Chapter 938).

54. *See* SENATE RULES COMMITTEE, SENATE FLOOR ANALYSIS OF SB 970, at 1 (May 29, 1999) (noting that a major purpose of SB 970 (Chapter 938) is to articulate the rights and responsibilities of water transferees).

55. CAL. WATER CODE § 1015 (enacted by Chapter 938).

56. *Id.* § 1016(b)(1)-(2) (enacted by Chapter 938).

57. *Id.* § 1726(d) (enacted by Chapter 938); *see also id.* (including a ten-day limit following submission for the petitioner to publish notice of the proposed change in a newspaper of general circulation).

58. *Id.* § 1726(b) (enacted by Chapter 938); *see id.* (requiring written enumeration of such details as changes in water storage, timing, and point of divergence, as well as changes in water quality of instream flows that are likely to occur as a result of the change).

proposed water transfers,[59] and specifies the way in which the SWRCB must assess proposed transfers.[60] Chapter 938 places the burden of proof upon the petitioner to make a prima facie case of compliance with statutory requirements.[61] Once such a prima facie claim is established, Chapter 938 shifts the burden of proof to any party protesting the proposed water transfer.[62] Chapter 938 also attempts to protect the rights of the transferor[63] by prohibiting the SWRCB from modifying or conditioning the approval of a water transfer based on effects or conditions not caused by the temporary transfer.[64]

C. *Environmental Provisions—Instream Uses and Groundwater*

Recent concern over the impacts of water diversions upon the natural environment in California has led to the recognition of water rights dedicated to instream uses.[65] Chapter 938 addresses the evolving concept of instream water uses by allowing the water transferor to distinguish between those waters voluntarily transferred to instream uses and those that are mandatorily transferred under federal, State, or local law.[66] Furthermore, Chapter 938 generally prohibits any temporary water transferor from replacing the transferred water with groundwater.[67] However, Chapter 938 makes important exceptions to this rule by allowing transferors to use groundwater to replace transferred surface water when they do so in compliance with the requirements of California Water Code sections 1745.10 and 1745.11.[68]

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59. *Id.* § 1726(f) (enacted by Chapter 938).

60. *See id.* § 1727(a)-(b) (enacted by Chapter 938) (requiring the SWRCB to find by a preponderance of the evidence that the proposed transfer will not injure other legal users of water and that the transfer will not unreasonably affect fish, wildlife, or instream beneficial uses).

61. *Id.* § 1727(c) (enacted by Chapter 938).

62. *Id.*

63. SENATE COMMITTEE ON AGRICULTURE AND WATER RESOURCES, COMMITTEE ANALYSIS OF SB 970, at 2 (Apr. 20, 1999).

64. CAL. WATER CODE § 1727(d) (enacted by Chapter 938).

65. *See* 2 SLATER, *supra* note 5, § 13.13 (describing the evolution of instream uses as a matter of both State policy and as an offshoot of the public trust doctrine).

66. CAL. WATER CODE § 1707(c)(1) (enacted by Chapter 938).

67. *Id.* § 1732 (enacted by Chapter 938).

68. *See id.* (specifying compliance with Water Code sections 1745.10 and 1745.11 as the only exclusion to the prohibition against replacing short-term transferred water with groundwater). Section 1745.10 prohibits replacement of transferred surface water with groundwater unless the groundwater use is consistent with a groundwater management plan, or, in the absence of a groundwater management plan, unless the transfer will not create or contribute to long-term overdraft of the basin. *Id.* § 1745.10 (West Supp. 2000). Section 1745.11 allows replacement of transferred surface water with *previously recharged* groundwater. *Id.* § 1745.11 (West Supp. 2000).

V. ANALYSIS OF CHAPTER 938

Chapter 938 marks a positive but blunted step in the continuing evolution of California water transfer law. The law's key provisions can be divided as follows: those strengthening the short-term marketability of appropriative water rights; those clarifying the authority of State agencies to regulate short-term water transfers; and those reducing the concerns of third parties with respect to economic and environmental issues. This Part will evaluate the level of success the new law has achieved with respect to the goals inherent in those provisions.

A. Water Rights as Marketable Property

Although California law has long encouraged voluntary water transfers, the State has not seen real development of a statewide water market.[69] At least one commentator has suggested that a primary factor impeding the widespread adoption of water transfers is the failure of appropriative water rights to provide rights holders with the same tenure over resources afforded to owners of real property.[70] This lack of tenure creates uncertainty as to what is actually bought or sold during a water transfer.[71] While Chapter 938 does not alter the basic usufructuary nature of water rights, it does take steps to create a marketable property right within California's appropriative water rights doctrine by protecting the rights of transferors and restricting the rights of transferees.[72]

1. Protecting the Transferors' Rights

To encourage temporary water transfers,[73] Chapter 938 adds legal safeguards to protect the tenure of appropriative rights holders. The most basic addition to the body of California's water laws is Chapter 938's statement that water transfers, or even the offer to transfer water, "shall not cause, or be the basis for, a forfeiture,[74] abandonment,[75] or modification of any water right."[76] Forfeiture and abandonment

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69. *See* Wahl, *supra* note 6, at 50 (noting that although California is a leading state in legislation aimed at encouraging voluntary water transfers, market transfers are not a routine phenomenon).

70. *E.g., id.* at 52.

71. *Id.*

72. *See* SENATE RULES COMMITTEE, SENATE FLOOR ANALYSIS OF SB 970, at 2 (May 29, 1999) (noting that a major purpose of SB 970 (Chapter 938) is to strengthen the rights of potential water transferors).

73. *Id.*

74. *See* CAL. WATER CODE § 1240 (West 1971) (indicating that forfeiture is the loss of all or part of an appropriative right that will result from a failure to put the water to a reasonable beneficial use).

75. *See* Wood v. Etiwanda Water Co., 147 Cal. 228, 233-34, 81 P. 512, 514 (1905) (defining abandonment of an appropriative water right as the relinquishment of possession with no intent to repossess the water); *see also* CAL. WATER CODE § 1241 (West Supp. 2000) (stating that a five-year period must elapse before abandonment may be established).

76. CAL. WATER CODE § 1014 (enacted by Chapter 938).

are among the primary mechanisms through which an appropriative water rights holder may lose such rights,[77] and some commentators postulated prior to the law's passage that the fear of potential abandonment and forfeiture may prevent rights holders from entering a temporary water transfer market.[78] Accordingly, Chapter 938 will likely alleviate this fear with its clear statement that rights holders cannot be subject to forfeiture or abandonment should they enter, or even contemplate entering, a temporary water transfer agreement.

Chapter 938 also provides rights holders with protection against loss of rights as a result of the transferee's actions.[79] First, transferees are required to use transferred water in accordance with California law.[80] In addition, should a transferee violate the reasonable beneficial use requirements,[81] Chapter 938 creates an automatic reversion of the water rights back to the transferor.[82] Therefore, a rights holder may enter temporary water transfer agreements knowing that the activities of the transferee cannot interfere with the original rights holder's own rights. However, the ultimate effectiveness of this provision at encouraging temporary water transfers, and the answer to the question of whether this provision will combine synergistically with similar provisions protecting rights holders against forfeiture and abandonment, cannot be known until the next drought, or until such other time as water transfers become commonplace.

Unfortunately, Chapter 938 leaves open the question of whether the transferor must begin using the water for a reasonable beneficial use immediately upon the reversion, or whether a grace period exists during which the transferor may not trigger the forfeiture rules even though the water is not being used by the transferor.[83] On the one hand, the silence of the specific provisions dealing with reversions supports the argument that the forfeiture period begins running immediately after the reversion because the Legislature likely would have included a definition otherwise.[84] On the other hand, the provisions of Chapter 938 in their entirety seem to provide every possible strengthening of the rights of transferors short of creating a private property right.[85] Under this view, the Legislature probably did not intend that a transferor be punished as a result of the transferee's

77. LITTLEWORTH & GARNER, *supra* note 3, at 46-47.

78. *See supra* notes 70-71 and accompanying text (describing the fear of forfeiture as a factor inhibiting market transfers).

79. *See* CAL. WATER CODE § 1015 (enacted by Chapter 938) (requiring that any alleged use violations be based on the transferee's actions during the term of the temporary water transfer agreement).

80. *Id.*

81. *See supra* Part II.A.3 (describing the reasonable beneficial use requirement).

82. CAL. WATER CODE § 1015.

83. *See id.* § 1728 (amended by Chapter 938) (excluding from the one-year transfer limit only the time required for monitoring, reporting, or mitigation).

84. *See* CAL. WATER CODE § 1011(a) (amended by Chapter 938) (requiring that any alleged use violations be based only on the *transferee's* actions during the term of the temporary water transfer agreement).

85. *See id.* § 1015 (enacted by Chapter 938) (specifying that if an enforcement action is undertaken during the term of a temporary transfer, only the transferee's use of the water shall be considered).

illegal activities.[86] Although this question ultimately will call for judicial resolution, the constitutional requirement that all water be applied to reasonable beneficial uses[87] would probably support the former view, and transferors would probably be required to apply their water to reasonable beneficial uses or immediately risk triggering forfeiture proceedings.[88]

2. Restricting the Transferee's Rights

Chapter 938 restricts the rights of transferees with respect to temporary water transfers.[89] As discussed above,[90] transferees must apply transferred water to a reasonable beneficial use or risk forfeiture of all or part of their rights under a temporary water transfer.[91] More importantly, however, Chapter 938 completely prohibits transferees from bringing claims to continue the water supply made available under the agreement, including normal contract claims such as estoppel or unforeseen circumstances.[92] This provision will probably have the effect of reducing the likelihood of success of a transferee seeking to extend a transfer agreement, but the determination will ultimately be made when and if any transfer agreements are judicially challenged.

B. Restricted Governmental Authority

Another element of water rights law that many commentators decry as being an inhibitor to temporary water transfers is the amount of State regulation involved.[93] Appropriative water rights are regulated by the SWRCB, and any changes must be approved by that agency according to specific administrative guidelines.[94] Prior to the enactment of Chapter 938, these guidelines contained two elements that were not conducive to temporary water transfers:[95] the lack of a

86. *Id.*

87. CAL. CONST. art. X, § 2.

88. *See supra* Part II.A.3 (describing the reasonable beneficial use requirement).

89. CAL. WATER CODE §1015 (enacted by Chapter 938).

90. *See supra* notes 74-78 and accompanying text (describing application of the forfeiture regulations to transferees).

91. *See* CAL. WATER CODE § 1015 (enacted by Chapter 938) (requiring transferees to meet the reasonable beneficial use standard).

92. *Id.* §1016(b)(2) (enacted by Chapter 938).

93. *See* LITTLEWORTH & GARNER, *supra* note 3, at 223 (describing the inhibitory effect of governmental regulation, among other factors, to development of a water market); Wahl, *supra* note 6, at 58 (same).

94. CAL. WATER CODE § 1727(a)-(e) (enacted by Chapter 938).

95. *See* Wahl, *supra* note 6, at 58 (noting that the lack of administrative guidelines and conditioning of permits inhibits water transfers).

specific administrative time limit[96] and the ability of the SWRCB to condition approval of transfers on issues not related to the transfer.[97]

Whereas prior law did not provide any specific time limits for the SWRCB to review proposed changes, and contentious changes may take months or even years to complete, Chapter 938 addresses this problem by requiring the SWRCB to reach a decision within forty-five days.[98] Reducing administrative delays may ease the burden on parties wishing to enter temporary water transfers, but the question remains as to how well the forty-five day time limit will allow reasoned analysis of the proposed transfer.

Chapter 938 also clarifies the legal ability of the SWRCB to condition approval of temporary water transfers—an issue largely ignored by prior law.[99] Chapter 938 clearly states that temporary water transfers shall not be modified for any reason except as necessary to address problems caused directly by the transfer.[100] This provision likely will encourage new potential transferors to enter the temporary transfer water market who otherwise would not have out of fear that the SWRCB would condition its approval on issues unrelated to the transfer.

C. *Third-Party Effects*

Finally, concerns of third parties over issues as diverse as the protection of agriculturally dependent rural economies and protection of fish and wildlife species create a political climate ill-prepared to embrace water transfers.[101] According to at least one commentator, water transfers will not be widely adopted until these third party concerns are addressed.[102] Chapter 938 contains several provisions designed to address these concerns of third parties.[103]

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96. 1988 Cal. Stat. ch. 1145, sec. 3, at 3676 (enacting CAL. WATER CODE § 1727).

97. *Id.*

98. *See* CAL. WATER CODE § 1726(e) (enacted by Chapter 938) (setting a ten-day limit on the time that may elapse between the submission of a proposed transfer and the commencement of an investigation by the SWRCB); *id.* §1726(g)(1)-(2) (enacted by Chapter 938) (establishing a thirty-five day limit between the time of commencement of the investigation and the rendering of the SWRCB's decision, but allowing extensions at the SWRCB's discretion).

99. *See* 1988 Cal. Stat. ch. 1145, sec. 2, at 2763-64 (enacting CAL. WATER CODE § 1727) (requiring the SWRCB to review and approve temporary water transfers, but doing so without limitation as to the placement of conditions upon approval).

100. *See* CAL. WATER CODE § 1727(d) (enacted by Chapter 938) (limiting conditions placed upon temporary water transfer agreements to those necessary to address problems caused by the proposed transfer).

101. *See* Wahl, *supra* note 6, at 50 (arguing that water transfers will not be widely embraced until long-standing conflicts over water management are resolved and a more favorable political climate is achieved).

102. *Id.*

103. *See* SENATE RULES COMMITTEE, SENATE FLOOR ANALYSIS OF SB 970, at 2 (May 29, 1999) (noting advocates' arguments that the new law will positively impact third parties).

1. Temporary Land Fallowing Limitation: Protecting Rural Economies

Perhaps no other segment of California's economy is as dependent upon a reliable supply of water as are those making a living from agriculture.[104] The agricultural sector uses and holds the appropriative rights to approximately eighty percent of the developed water supplies in California.[105] In many rural areas, farm income provides the foundation for much of the economy—from the earnings of field workers to the incomes of local retail stores.[106] Many believe that because wholesale prices for agricultural products remain relatively unaffected by regional conditions, agricultural interests will be the first to enter into transfers whenever drought conditions increase the value of their water above the value of the crops they could produce with the water.[107] The effect on local economies could be devastating should a substantial number of farmers in a given area decide to permanently transfer their water to other uses.[108]

Chapter 938 addresses this concern by restricting the types of water that may be transferred from agricultural production.[109] Under prior law, agricultural water rights holders could fallow or retire farmland, and then transfer the water to other users.[110] The law made no distinction between temporary and permanent fallowing.[111] Chapter 938, on the other hand, allows only water conserved through *temporary* land fallowing to be transferred.[112] This provision will likely satisfy the concerns of those in agricultural communities who do not wish to see permanent land fallowing in their regions.

However, the effects of temporary water transfers are not completely ameliorated by Chapter 938 because it contains no provision designed to protect rural economies from short-term disruption resulting from temporary water transfers.[113] Under Chapter 938, should severe drought encourage widespread temporary water transfers, local economies are likely to feel acute short-term effects of land fallowing that may be just as devastating as the effects of long-term

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104. LITTLEWORTH & GARNER, *supra* note 3, at 69.

105. *Id.* at 2.

106. *See* Brinkerhoff, *supra* note 8, at 14 (describing the third-party effects of water transfers on agricultural economies).

107. *E.g., id.*

108. *Id.* at 16.

109. CAL. WATER CODE § 1011(a) (amended by Chapter 938).

110. *See* 1996 Cal. Legis. Serv. ch. 408, sec. 1, at 96 (amending CAL. WATER CODE § 1011(b)) (allowing water conserved through land fallowing to be sold, leased, exchanged, or otherwise transferred without restriction as to the duration of land fallowing).

111. *See id.* (amending CAL. WATER CODE § 1011(a)) (defining, without restriction, conserved water as including all water saved through land fallowing).

112. CAL. WATER CODE § 1011(a) (amended by Chapter 938).

113. *See generally* Brinkerhoff, *supra* note 8, at 12 (describing the general need to protect rural economies through a stable water supply).

land fallowing.[114] The Legislature has yet to address this type of short-term impact of water transfers. Until the next prolonged drought triggers water transfers, the true short-term effects of temporary water transfers on third parties cannot be known.

2. *Instream Uses*

Increasing concern for the health of aquatic ecosystems has caused federal and State laws to embrace the concept of instream uses.[115] While many rights holders may wish to dedicate some water to instream uses, prior to Chapter 938's passage, the laws of California provided no assurance that water rights holders who do so would retain the right to use the water in the future.[116] Chapter 938 allows rights holders to dedicate a portion of their water rights to instream flow distinct from any instream flow mandated by federal or State law.[117] In this way, rights holders may allow a portion of their water to be dedicated to instream uses until such time as they wish to apply the water to another use. However, without further legislative or judicial clarification, the ability to retract such transfers remains in question.

3. *Groundwater*

An interesting dichotomy exists in water law with respect to the way the law addresses surface water and groundwater. Groundwater is not subject to the same extensive regulatory scheme as is surface water.[118] As a result, in many portions of the State, the groundwater has been pumped faster than it has been replenished.[119] A major goal of the sponsors of Chapter 938 is to prevent increased degradation of groundwater supplies occurring as a result of temporary water transfers.[120] Chapter 938 does not allow a transferor to replace transferred surface water with groundwater unless the transferor is in an area with detailed groundwater management plans.[121] While the effectiveness of this provision remains to be seen due to the inherent difficulties in monitoring groundwater extraction, Chapter 938

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114. *Id.*

115. Eric L. Garner, *The Convergence of Western and Eastern Water Law*, 9 CALIFORNIA WATER L. & POL'Y REP. 11, 254 (1999).

116. *See* SENATE RULES COMMITTEE, SENATE FLOOR ANALYSIS OF SB 970, at 2 (May 29, 1999) (noting that SB 970 (Chapter 938) allows transferors to distinguish between waters dedicated to instream uses per statutory mandate and those voluntarily dedicated to instream uses).

117. CAL. WATER CODE § 1707(c)(1) (amended by Chapter 938).

118. *See* LITTLEWORTH & GARNER, *supra* note 3, at 29 (noting that most surface water rights in California are governed by the riparian doctrine and the doctrine of prior appropriation).

119. *Id.*

120. SENATE RULES COMMITTEE, SENATE FLOOR ANALYSIS OF SB 970, at 2 (May 29, 1999).

121. *See* CAL. WATER CODE § 1732 (enacted by Chapter 938) (prohibiting replacement of transferred surface water with groundwater except when the transferor is in compliance with Water Code sections 1745.10 and 1745.11, which require groundwater management plans in regions where groundwater supplies have diminished).

is a minor step towards protection of fragile groundwater supplies as the temporary water transfer market develops.

VI. CONCLUSION

While Chapter 938 does not address many of the factors that have prevented the development of a true water market in California, it does make significant advances to encourage short-term water transfers.[122] Given the law's water-rights strengthening and procedural clarifications, water rights holders, particularly agricultural users, will be encouraged to engage in short-term water transfers when supplies are low and prices are high.[123] The appeal of this new market, however, is not likely to be tested until the next prolonged drought. Unfortunately, the chance that California will again be faced with such an opportunity is high indeed.[124]

122. *See supra* Part V (describing the new law's encouragement of short-term water transfers).

123. *See supra* Part V.B-C (noting the tendency of agricultural users to engage in short-term water transfers when economically beneficial).

124. *See supra* note 8 and accompanying text (observing the general agreement that California will experience another prolonged drought).

Chapter 435: Protecting Endangered and Threatened Sheep Species From the Prolific California Mountain Lion

Blake P. Temple

Code Section Affected
Fish and Game Code § 4801 (amended).
AB 560 (Oller); 1999 STAT. Ch. 435 (*Effective September 17, 1999*)

I. INTRODUCTION

On the morning of April 20, 1998, in a deep canyon a few miles west of Mono Lake, a biologist named Karl Chang was tracking a bighorn ewe with a radio collar when the radio signal turned urgent.[1] The pulse sped to a rate which could only mean death was imminent.[2] Chang followed the fresh bighorn prints, and soon the four-inch wide tracks of a mountain lion appeared.[3] Chang climbed a hill, and, under a thicket of mountain mahogany, found ewe Number 230 left at the base of a pine tree, partially buried and eaten.[4] California had just lost one of its estimated 140 Sierra Nevada bighorn sheep, the only such sheep in the world.[5] This particular ewe had given birth to three lambs in each of the past three years, and was probably pregnant when she died.[6]

Largely due to the protected status of mountain lions, the number of bighorn sheep in California is dropping rapidly.[7] Because of this protected status, the Department of Fish and Game (DFG) cannot protect the bighorn sheep from dangerous mountain lions which have acquired a taste for bighorn.[8]

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1. *See* Nancy Vogel, *Law Shielding Lions May Doom Sheep*, SACRAMENTO BEE, May 18, 1998, at A1 (relating a story about the plight of the Sierra Nevada bighorn sheep).
2. *Id.*
3. *Id.*
4. *Id.*
5. *Id.*; *see also infra* note 12 and accompanying text (referencing a source that puts the number of bighorn as low as 120).
6. Vogel, *supra* note 1.
7. *Id.*
8. *See id.* (stating that because of a ballot measure the voters passed to protect mountain lions, the Sierra Nevada bighorn sheep are plunging into extinction, and scientists can do nothing to stop it).

California state policy encourages preservation, conservation, and maintenance of wildlife resources.[9] This includes the maintenance of sufficient populations of all species of wildlife.[10] The Sierra Nevada bighorn sheep, a subspecies of bighorn sheep that are genetically distinct from any other bighorn sheep in the world, currently face a high risk of extinction.[11] As of May 24, 1999, the entire Sierra Nevada bighorn sheep population hovered at roughly 120 individuals.[12] This ebbing of the bighorn population is due largely to deaths caused by mountain lions, which are protected under state law from being hunted or otherwise killed.[13] Chapter 435 will grant to the DFG the authority to remove mountain lions that are predating on any endangered or threatened sheep species, thereby protecting California's bighorn sheep.[14] Additionally, while Chapter 435 was created primarily in response to the plight of the Sierra Nevada bighorn, it allows the DFG to protect all sheep species.[15]

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9. *See* CAL. FISH & GAME CODE § 1801 (West 1998) (explaining State policy is to preserve, conserve, and maintain wildlife resources, and that these policy objectives include maintaining sufficient populations of all species of wildlife); *see also id.* § 2780 (West 1998) (stating that protection, enhancement, and restoration of wildlife habitat and fisheries are vital to maintaining the quality of life in California, and that as the human population increases, it is important that California protect wildlife habitats that support California's wildlife resources).

10. *See* CAL. FISH & GAME CODE § 1801 (West 1998) (declaring that it is the policy of the state to maintain sufficient populations of all species of wildlife and their habitats, to provide for the beneficial use and enjoyment of wildlife by all citizens of the state, and to perpetuate all species of wildlife for their intrinsic and ecological values, as well as for their direct benefits to all persons).

11. *See* Issue Summary, *Bighorn Sheep*, ¶ 1 (visited July 29, 1999) <http://www.r5.fs.fed.us/sncf/ docs/ S_11.html> (copy on file with the *McGeorge Law Review*) (asserting that native Sierra Nevada bighorn sheep are a genetically unique subspecies of mountain sheep found only in the central and southern Sierra Nevada, and that while they are in danger of extinction, the opportunities for the bighorn's survival could be improved by federal and State management actions, but changes in the mountain lion protection status have made control of bighorn depredation difficult).

12. *See* ASSEMBLY FLOOR, COMMITTEE ANALYSIS OF AB 560, at 2 (May 24, 1999) (stating that only about 120 Sierra Nevada bighorn sheep remain in California, and therefore, the world).

13. *See* Mark Grossi, *Groups Move to Save Bighorn Sheep: Petition Seeks Increased Protection for the Dwindling Sierra Herds*, FRESNO BEE, Feb. 11, 1999, at A15 (explaining that the bighorn sheep are being killed by mountain lions, which cannot be hunted or killed under California law); *see also* CAL. FISH & GAME CODE § 4800(a) (West 1998) (granting to the mountain lion a specially protected status).

14. *See* CAL. FISH & GAME CODE § 4801 (amended by Chapter 435) (stating that "the department may remove or take any mountain lion... that is perceived by the department to be an imminent threat to the survival of any threatened, endangered, candidate, or fully protected sheep species").

15. *See id.* (amended by Chapter 435) (explaining that "the department may remove or take any mountain lion . . . that is perceived to be an imminent threat to public health or safety or . . . the survival of any threatened, endangered, candidate, or fully protected sheep species"); *see also* ASSEMBLY FLOOR, COMMITTEE ANALYSIS OF AB 560, at 2-3 (May 24, 1999) (stating that this bill was introduced to remedy the dangerous situation facing the Sierra Nevada bighorn sheep).

II. BACKGROUND

A. *Brief History of Protections for Mountain Lions*

More than 12,000 mountain lions were killed in California for bounty and for sport between 1916 and 1971.[16] However, during this same period, Californians began to understand the importance of preserving wildlife.[17] In 1963, California designated a four-year period during which bounty hunting of mountain lions was prohibited.[18] In 1967, California repealed the law that had allowed for bounties on mountain lions, effectively banning bounty hunting for mountain lions.[19] Experts estimated that by the time that the initial prohibition was enacted in 1963 the mountain lion population had fallen to as low as 600.[20] By 1971, when "Governor Ronald Reagan signed a moratorium on all hunting of mountain lions, populations had already rebounded to nearly 2,500."[21] In 1985, the Legislature sought once again to protect mountain lions, but only extended the moratorium on hunting cougars until biologists could measure the lion population.[22]

In 1990, "the voters of California responded to a proposed mountain lion hunting season with the passage of Proposition 117, the California Wildlife Protection Act of 1990. This act made the mountain lion a specially protected animal, a status which no other animal in California possessed."[23] In 1996,

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16. *See* California Wildlife Protection Coalition, *Trophy Hunting of Mountain Lions: A History of Deception*, ¶ 1 (Dec. 18, 1995) <http://www.sierraclub.org/chapters/ca/mountain-lion/history.html> (copy on file with the *McGeorge Law Review*) [hereinafter *Trophy Hunting*] (noting that between 1916 and 1971, more than 12,000 mountain lions were killed for bounty and sport in California, and reports were often made of hunters single-handedly bringing down wild cougars); *infra* note 54 (explaining that the term "cougar" is interchangeable with the phrase "mountain lion").

17. *See id.* (maintaining that between 1916 and 1971, Californians became more aware of the value of wildlife; in 1922, the California grizzly bear became extinct, and at that time Californians recognized that cougars, also known as mountain lions, were in danger of the same fate).

18. *See* 1963 Cal. Stat. ch. 2022, Sec. 1, at 4146 (amending CAL. FISH & GAME CODE § 4155) (maintaining that bounty hunting for mountain lions would be disallowed between October 1, 1963 and October 1, 1967).

19. *See* 1967 Cal. Stat. ch. 196, Sec. 1-2, at 1303-04 (repealing CAL. FISH & GAME CODE § 4155) (explaining that in the best interest of the public, bounty hunting for mountain lion is banned through the repeal of section 4155).

20. *See* Keith G. Wagner, *Managing Mountain Lions in California: Facts and Friction*, ¶ 2 (June 10, 1996) <http://error.sac.verio.net/users/keithw/cougar. htm> (copy on file with the *McGeorge Law Review*) (estimating that, by 1963, California's mountain lion population had decreased to 600 animals).

21. *Id.*; *see also* 1971 Cal. Stat. ch. 1592, Sec. 1-4, at 3207-08 (enacting CAL. FISH & GAME CODE § 4850) (declaring that mountain lions are not to be considered game mammals, making unlawful the sport hunting of mountain Lons).

22. *See Trophy Hunting*, *supra* note 16, ¶ 4 (discussing the 1985 Legislature's belief that the moratorium on mountain lion hunting should be extended until biologists could measure the lion population in California); *see infra* note 54 (explaining that the term "cougar" is interchangeable with the phrase "mountain lion").

23. Craig E. Enochs, *Gone Today, Here Tomorrow*, 4 HASTINGS W.N.W. J. ENVTL. L. & POL'Y 91, 92 (1997); *see also* CAL. FISH & GAME CODE § 4800(a) (West 1998) (granting to the mountain lion a specially protected status); California Wildlife Protection Act, Prop. 117, § 5 (codified at CAL. FISH & GAME CODE § 4800).

California voters rejected Proposition 197,[24] which would have repealed the mountain lion's status as a specially protected mammal by bestowing upon the DFG greater leeway in the management of mountain lions.[25] Critics of the proposition argued that this was a ploy to reinstate trophy hunting of mountain lions, and Californians were unequivocally opposed to it.[26]

However, although the people of California place a high value on the mountain lion, this popular sentiment may lead to the extinction of the Sierra Nevada bighorn sheep.[27] Existing law allows the DFG to remove a mountain lion, but only if it is perceived to be an imminent threat to public health or safety.[28] Lawyers at the DFG concluded that this meant mountain lions could be killed only if they posed an imminent threat to people, or destroyed livestock or pets.[29] Because bighorn sheep are not livestock, mountain lions that threaten bighorns do not pose a threat to public health or safety under this definition.

B. Brief History of Threats to Bighorn Sheep, and Existing Protection for the Sierra Nevada Bighorn Sheep

Although mountain lions are now a major reason for the dilemma facing California bighorn sheep, human intrusions upon the bighorn sheep have also

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24. Amendment of the California Wildlife Protection Act of 1990; Mountain Lions; Legislative Initiative Amendment, Prop. 197, § 4 (defeated at the March 26, 1996 election).

25. *See* Wagner, *supra* note 20, ¶ 1 (stating that "on March 26, 1996, California voters decided against a controversial bill, Proposition 197, which would have allowed the California Department of Fish and Game wider latitude in the management of mountain lion populations within the state"); Amendment of the California Wildlife Protection Act of 1990; Mountain Lions; Legislative Initiative Amendment, Prop. 197, § 4 (rejected by the voters at the March 26, 1996, election).

26. *See* Wagner, *supra* note 20, ¶ 1 (observing that critics claimed that Proposition 197 was simply an effort to allow trophy hunting of mountain lions once again, although it has been banned in California since 1972); *see also* CALIFORNIA SECRETARY OF STATE, MARCH 1996 VOTER INFORMATION GUIDE AND BALLOT PAMPHLET, 30 (1996) [hereinafter BALLOT PAMPHLET] (argument against Proposition 197) (stating that "this is a gun lobby attempt to manipulate the horrible death of a mother to fool voters into legalizing the trophy hunting of mountain lions").

27. *See* Traci Watson, *Meant to Protect Animals, Laws Can Harm*, USA TODAY, May 14, 1999, at 03A (expressing that protecting mountain lions was thought to be a good idea when the California voters passed a referendum in 1990 banning all killing of mountain lions, but observing that mountain lion numbers have exploded, and the lions have turned to hunting Sierra Nevada bighorn sheep); *see also* (1996) BALLOT PAMPHLET, *supra* note 26, at 30 (explaining that in 1990, control of the mountain lion was stripped from the DFG, and the population of mountain lions grew to dangerous levels, resulting in a declining of the bighorn sheep, as well as other species' populations, and the deaths of humans and pets).

28. CAL. FISH & GAME CODE § 4801 (amended by Chapter 435).

29. *See* Vogel, *supra* note 1, at A1 (explaining that not until a small number of ewes were left did the DFG biologists finally seek a legal opinion on whether they could kill mountain lions to protect sheep, and the lawyers concluded that in order to kill a mountain lion, the lion must have posed an imminent threat to people or have destroyed livestock or pets).

adversely affected the sheep populations.[30] Like many other species, the bighorn sheep have experienced a dramatic impact on their environment due to human encroachment.[31] European settlers had little concern for the lives of the bighorn sheep, and would tenaciously hunt the bighorn for food and profit.[32] During the gold rush, more people moved west and built new towns, roads, fences, and dams, all of which caused the bighorn herds to become detached from one another.[33] In addition, human settlement and expansion divided and degraded the natural habitat of bighorn sheep, severely harming bighorn populations.[34]

However, throughout the history of the bighorn sheep existence, this species' greatest foe has been domestic sheep.[35] By the mid-nineteenth century, hundreds of thousands of domestic sheep, carrying a strain of pneumonia fatal to bighorns, were turned loose to graze in the Sierra Nevada hills.[36] Today, bighorn sheep are still threatened by disease from domestic sheep because bighorns lack immunity to certain diseases common in domestic sheep.[37] "Bighorns become infected by nose-to-nose contact or when young rams mate with domestic ewes[;] . . . [t]he infected bighorn then returns to the herd, infecting the entire population."[38] This contact usually results in massive devastation of bighorn sheep.[39]

Although domestic sheep have posed a significant threat to Sierra Nevada bighorn sheep, mountain lion predation has become the principal factor pushing the Sierra Nevada bighorn to the edge of extinction.[40] As a result of Proposition 117, while the mountain lion has proliferated, the Sierra Nevada bighorn has been placed

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30. *See* Katurah Mackay, *Sierra Bighorns Need Protection*, NAT'L PARKS MAG., ¶ 5 (May-June, 1999) <http://www.npca.org/magazine/ may_ june_1999/park_news01.html> (copy on file with the *McGeorge Law Review*) (pointing out that "a combination of human-induced causes has drastically affected the bighorn's population").

31. *See* Christopher M. Papouchis, *Bighorn Sheep in a Rut*, Animal Issues, Vol. 30, No. 1, ¶ 5 (Spring 1999) <http://www.api4animals.org/Publications /AnimalIssues/1999-spring/BighornSheepInARut.htm> (copy on file with the *McGeorge Law Review*) (stating that, like many other species, bighorn sheep have been severely impacted by human development).

32. *Id.*

33. *See id.* (stating that, "as more people moved westward . . . they built new towns, roads, fences, and dams" which isolated bighorn herds, and "divided and degraded the habitat used by bighorn sheep").

34. *See id.* (explaining that the bighorn herds were crippled by disease and cut off from each other due to development by human populations moving west). The herds were unable to recover, and many bighorn populations did not survive. *Id.*

35. *See* Mackay, *supra* note 30, ¶ 5 (expressing that "domestic sheep grazing has probably been the greatest decimating factor on Sierra bighorns").

36. *Id.*

37. *Domestic Animal Competition Delays Bighorn Reintroduction*, ALBUQUERQUE J., Jan. 26, 1998, at B8.

38. *Experts Worry Domestic Sheep, Bighorns Will Mix*, ALBUQUERQUE J., Dec. 6, 1998, at B5.

39. *See Domestic Animal Competition Delays Bighorn Reintroduction*, *supra* note 37 (quoting Bill Dunn of the New Mexico Fish and Game Department as stating that "domestic sheep and bighorn contact usually results in [a] massive die-off of bighorn sheep").

40. *Coalition: Sierra Nevada Bighorn Sheep Face Extinction; Government Action Sought to Save Monarch of Sierra Wilderness*, U.S. NEWSWIRE, Feb. 9, 1999, *available in* 1999 WL 4635386.

in jeopardy of becoming extinct.[41] A factor which may be of even greater harm than outright predation of the bighorn is that "mountain lions tend to drive bighorn sheep to higher altitudes, where food is scarce" and avalanches occur.[42] In addition, declining "bighorn numbers can force inbreeding, caus[ing] genetic defects, weak offspring, and increased vulnerability to disease."[43] Also, due to the low numbers of bighorn sheep, the herds have become vulnerable to predation losses to mountain lions.[44] Because of the dangers facing bighorn sheep, "[t]he last five herds of Sierra Nevada bighorn sheep [received] the toughest government protection possible when the U.S. Fish and Wildlife Service used emergency powers to declare them endangered."[45] Despite Proposition 117, the listing enables federal biologists to shoot mountain lions that are threatening the bighorn.[46] Chapter 435 allows for a more permanent solution by giving the DFG the ability to control the mountain lions of California, thereby helping the bighorn sheep to survive.[47]

III. CHAPTER 435

Chapter 435 was created in response to the plight of the Sierra Nevada bighorn sheep, and gives DFG the authority to remove mountain lions that are predating on any endangered and threatened sheep species.[48] Thus, DFG will no longer have its hands tied in its quest to protect sheep species, such as the bighorn sheep, from the mountain lions.[49]

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41. *See* Thomas D. Elias, *Cougar-Hunt Ban Putting Bighorn Sheep in Jeopardy*, WASH. TIMES, Mar. 7, 1999, at A2 (suggesting that California voters did not know when they voted to ban sport hunting of mountain lions that their votes would mark the demise of the Sierra Nevada bighorn sheep).

42. Mackay, *supra* note 30, ¶ 10.

43. *Id.*

44. *See* U.S. NEWSWIRE, *supra* note 40, (stating that, "[a]lthough mountain lions and Sierra Nevada bighorn sheep historically co-existed[,]" the bighorn are now more vulnerable than ever because of their low numbers).

45. Nancy Vogel, *Sierra Bighorn Sheep Declared Endangered*, SACRAMENTO BEE, Apr. 21, 1999, at B1; *see* 64 Fed. Reg. 19, 300 (1999) (declaring that the unique species of Sierra Nevada bighorn sheep as endangered under an emergency ruling by the Rules and Regulations Department of the Interior Fish and Wildlife Service).

46. *See* Vogel, *supra* note 45, at B1 (stating that the listing allows federal biologists to shoot mountain lions, the chief threat to the bighorn, even though the California voters favored complete protection of the cats by passing a 1990 ballot measure to this effect); *see also* 64 Fed. Reg. 19, 300 (1999) (declaring that the Rules and Regulations Department of the Interior Fish and Wildlife Service used an emergency ruling to declare the rare species of Sierra Nevada bighorn sheep endangered).

47. CAL. FISH & GAME CODE § 4801 (amended by Chapter 435); *see* ASSEMBLY FLOOR, COMMITTEE ANALYSIS OF AB 560, at 3 (May 24, 1999) (asserting that this bill will allow DFG to focus their control of mountain lions as is necessary, which will aid in the survival of the bighorn sheep).

48. *See* CAL. FISH & GAME CODE § 4801 (amended by Chapter 435) (expressing that the DFG or local public safety agency may kill a mountain lion that is seen as a threat to any threatened, endangered, candidate, or fully protected sheep species).

49. *See id.* (amended by Chapter 435) (declaring that the DFG may remove or take any mountain lion that it believes to be an "imminent threat to public health or safety or to the survival of any threatened, endangered, candidate, or fully protected sheep species"). The term "take" in this context, refers to the DFG killing the mountain lion. *Id.*

A. Support For Chapter 435

Those in favor of granting the DFG the ability to take mountain lions believe that if the DFG had the power to hunt mountain lions, the bighorn sheep herds would be much larger.[50] The problem now is that the bighorn are being killed due to the predation of mountain lions, which are protected by California State law from being killed.[51] Initially, biologists did not recognize the wide-ranging effects that the growing number of mountain lions would have on the bighorn sheep population.[52] Later, biologists realized that the mountain lions killed the bighorn through predation and by forcing the bighorn sheep to flee into higher elevations where, among other things, it is difficult for newborns to survive.[53] Another factor contributing to the bighorn's decline is that mountain lions are no longer being controlled by their natural predators, such as the grizzly bear.[54]

It is convenient for those opposed to Chapter 435 to blame the decreasing numbers of bighorn on disease caused by domestic sheep, but the disease factor is no longer the biggest problem.[55] Today, the U.S. Forest Service and the National Park Service set controlled fires, to destroy mountain lion cover for hunting, and keep domesticated sheep away from the wild sheep.[56] Fish and Game biologist Steve Torres, who supports the DFG's power to take mountain lions predating on bighorn sheep, and accordingly supports Chapter 435, explains that "the problem is that so few [bighorn] exist [that] they could be obliterated by natural enemies[, and] [t]o dismiss mountain lion predation when there are so few animals left would be irresponsible."[57]

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50. *See* Elias, *supra* note 41, at A2 (stating that the bighorn herds would be much larger today if the State or federal officials had never lost the power to control the lions by hunting them).

51. *See* Grossi, *supra* note 13, at A15 (explaining that larger numbers of sheep are being destroyed by mountain lions due to the mountain lions protection under State law); *see also* California Wildlife Protection Act, Prop. 117, § 5 (codified at CAL. FISH & GAME CODE § 4800) (granting to mountain lions a specially protected status under the laws of California).

52. *See* Watson, *supra* note 27, at 03A (expressing that initially, biologists believed the bighorn sheep would be successful because biologists did not recognize the negative effect the growing population of mountain lions would have on the bighorn sheep).

53. *Id.*

54. *See* Wagner, *supra* note 20, ¶ 10 (suggesting that it is natural for cougars to kill sheep, but control mechanisms, such as grizzly bear, which used to control the cougar population, are now gone from California). Many different terms are used to refer to mountain lions, including cougar, puma, and panther. *Id.*

55. *See* Nancy Vogel, *Protected Predator Stalks Rare Bighorn Sheep*, SAN DIEGO UNION-TRIB., May 26, 1998, at A3 (observing that it is not disease from domestic sheep that is now killing off the bighorn sheep, but rather that the numbers of bighorn sheep have become so low that mountain lions, stalking the bighorn as easy prey, have become the greatest strain on the bighorn herds).

56. *Id.*

57. *Id.*

Sierra Nevada bighorn sheep are now close to extinction, [58] and Chapter 435 was created to protect them.[59] Such protection can be achieved by killing specific mountain lions that pose risks to bighorn.[60] According to supporters of Chapter 435, the drastic measure of killing mountain lions that hunt the Sierra Nevada bighorn sheep has become imperative.[61] While relocation would be more desirable than killing mountain lions, "relocation [is] expensive, and the [mountain] lions rarely survive being transplanted to a new territory."[62]

Fish and Game biologist Steve Torres, a supporter of Chapter 435, agrees that captive breeding and release tactics with the bighorn sheep should be employed as well.[63] In the effort to stabilize the Sierra Nevada bighorn sheep population, biologists believe that a breeding program is the most promising way of accomplishing this goal.[64] The objective of such a program would be to increase the population of Sierra Nevada bighorn sheep so that they can be removed from the endangered species list.[65] The DFG must implement controlled killing of predators stalking the bighorn if this goal is to be reached.[66]

Historically, mountain lions that were attacking bighorn sheep could be taken by the DFG, but the 1990 vote to prohibit any killing of mountain lions has

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58. CAL. FISH & GAME CODE § 4801 (amended by Chapter 435); *see* SENATE NATURAL RESOURCES & WILDLIFE COMMITTEE, COMMITTEE ANALYSIS OF AB 560, at 2 (June 22, 1999) (asserting that this bill is necessary to avoid the extinction of the Sierra Nevada bighorn sheep).

59. *See* ASSEMBLY FLOOR, COMMITTEE ANALYSIS OF AB 560, at 3 (May 24, 1999) (expressing that Chapter 435 will allow the DFG to control the mountain lion population to protect the bighorn sheep).

60. *See Endangered Status for Bighorns is Dangerous for Cougars*, SALT LAKE TRIB., Apr. 21, 1999, at A10 (pointing out that the petition to the Fish and Wildlife Service asking for endangered status for the Sierra Nevada bighorn sheep was only about protecting the bighorn sheep, not harming the mountain lions; the bighorn have to be protected, and doing so includes killing individual mountain lions that prey on them).

61. *See* SENATE NATURAL RESOURCES AND WILDLIFE COMMITTEE, COMMITTEE ANALYSIS OF AB 560, at 2 (June 22, 1999) (explaining that supporters of the bill believe that it is necessary to give the DFG the power to kill mountain lions in order to protect the few remaining sheep populations).

62. *Biologists Seek to Capture, Breed Imperiled Sierra Sheep*, ASSOCIATED PRESS POL. SERVICE, January 30, 1999, *available in* 1999 WL 3113729.

63. *See id.* (explaining that biologists want to undertake captive breeding of the bighorn sheep, and will ask the Fish and Game Commission for permission to do so). Captive breeding and release tactics refer to techniques used to breed bighorn sheep in captivity, behind fences, and are then freed into the wild where they will hopefully survive and thrive. *Id.*

64. *See id.* (proclaiming that "a breeding program has the most potential for success, past experiences breeding the Peninsular bighorn . . . showed they reproduce well behind fences and quickly learn to survive when freed").

65. *See DNA Tests Identify Cougars that Kill Endangered Bighorn Sheep NM Biologists Work to Protect Herds Without Eliminating Wrong Predators*, DALLAS MORNING NEWS, July 4, 1998, at 37A (explaining that biologists are using mountain lion feces in an effort to assure that the particular mountain lion threatening the bighorn was shot, and not a mountain lion that is no threat to the bighorn; this will allow the bighorn sheep to be relieved of the danger of mountain lions predating on bighorn populations). Biologists hope that this program will "increase the number of animals in the wild to the point the desert bighorn can be removed from the endangered species list." *Id.* If identifying the DNA of mountain lions aids the effort to protect the desert bighorn, it may also be useful in trying to save the Sierra Nevada bighorn sheep. *Id.*

66. *See also* Vogel, *supra* note 1, at A1 (stating that to save an animal close to extinction, controlling the animals which threaten that endangered species by killing them is imperative).

extinguished this power, and the DFG can no longer effectively protect the bighorn.[67] Those advocating the DFG power to take mountain lions believe that the mountain lions should have always been controlled, and in the wake of 1990's Proposition 117, it has now become exigent to control such lions.[68] Further, advocates believe that "'[i]f we care about biological diversity, we [are] going to have to do what it takes,' [and] that means intervening when necessary."[69] Chapter 435 will be beneficial in the quest to save the bighorn because it gives the DFG the authority to remove mountain lions that are predating on any endangered or threatened sheep species, and will thereby protect California's bighorn sheep.[70]

B. Opposition to Chapter 435

Those who oppose the DFG's power to kill mountain lions believe that relocation of troublesome mountain lions is a better solution to the problem than killing predating mountain lions.[71] Also, opponents of Chapter 435 note that mountain lions may be relocated, and that the U.S. Fish and Wildlife Service already has the power to kill those mountain lions threatening Sierra Nevada bighorn sheep.[72] Executive director of the Mountain Lion Foundation Lynn Sadler also explains that only a few individual mountain lions have begun to crave bighorn sheep as meals.[73] Thus, the DFG should concentrate on remedying the difficulty with those particular lions through the use of relocation, rather than by killing them.[74]

Sadler, who holds a strong stance in opposition to the killing of mountain lions, a power granted to the DFG under Chapter 435, believes that "without removing the domestic sheep that carry disease to wild bighorn and graze down their range,

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67. *See* Scott Sonner, *Lions May Be Shot to Save Bighorns*, ASSOCIATED PRESS ONLINE, Apr. 20, 1999, *available in* 1999 WL 17058814 (noting that prior to the 1990 ballot initiative banning sport hunting of big cats, mountain lions that were threatening bighorn sheep herds were shot by the DFG).

68. *See* Watson, *supra* note 27, at A3 (expressing that controlling mountain lions through the use of termination should have been continued, but could not be because of the 1990 law, and now no choice is left but to control mountain lions through the use of this method).

69. *Id.*

70. *See* CAL. FISH & GAME CODE § 4801 (amended by Chapter 435) (stating that "[t]he department may remove or take any mountain lion . . . that is perceived by the department to be an imminent threat to the survival of any threatened, endangered, candidate, or fully protected sheep species").

71. *See* Vogel, *supra* note 45, at B1 (expressing that "when a mountain lion stalks a herd, the [Mountain Lion] [F]oundation will argue for relocation, not the killing of the cat").

72. *See* SENATE NATURAL RESOURCES AND WILDLIFE COMMITTEE, COMMITTEE ANALYSIS OF AB 560, at 2 (June 22, 1999) (observing that opponents argue that the bill is not needed because relocation of the mountain lion is still an option, and the U.S. Fish and Wildlife Service may protect the bighorn by killing mountain lions).

73. *See* Grossi, *supra* note 13, at A15 (explaining that mountain lions will kill a bighorn sheep, but that when only one mountain lion is the problem, the DFG need only stop the animal in question, not all mountain lions).

74. *See* Vogel, *supra* note 45, at B1 (proclaiming that "when a mountain lion stalks a herd, the Mountain Lion Foundation will argue for relocation, not the killing of the cat").

without closing down roads and letting burn the fires that destroy a mountain lions' cover[,] you can kill all the mountain lions and it won't make a difference," because the bighorn will still be lost.[75] Those against the lawful killing of mountain lions by the DFG blame the situation facing the Sierra Nevada bighorn sheep on the failure to care for the bighorn sheep ecosystem, rather than on mountain lions feeding on bighorn and forcing them into higher elevations where they cannot survive.[76] In fact, those who oppose Chapter 435 believe that domestic sheep pose just as large a threat, if not a greater threat, to the bighorn as mountain lions do because domestic sheep carry diseases which can kill large numbers of bighorn sheep.[77]

In addition, Sadler declares that no solid link has been proven between the plight of the Sierra Nevada bighorn and mountain lion predation.[78] Further, Sadler maintains that mountain lions eating bighorn sheep is a natural occurrence.[79] She explains that "bighorn sheep live in a harsh alpine environment that makes survival problematic under any circumstances."[80] Thus, one possible view of those who do not agree with the harshness of Chapter 435 is that the bighorn would have suffered a decline in their numbers even without mountain lions preying upon them. According to Sadler, despite the Sierra Nevada bighorn's situation, the DFG should not kill the mountain lion because scientists still cannot prove that eliminating the mountain lion will solve the bighorn's dilemma.[81] From the viewpoint of mountain lion advocates such as Sadler, methods other than the killing of mountain lions should be used to prevent lions from hunting endangered sheep species.[82]

IV. ANALYSIS OF CHAPTER 435

As mentioned previously, California's state policy is to "encourage the preservation, conservation, and maintenance of wildlife resources," and this includes the preservation of sufficient numbers of wildlife species.[83] California

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75. *Id.*

76. *See id.* (explaining that what has occurred with the Sierra Nevada bighorn sheep has occurred due to humans' lack of care for the sheep's ecosystem).

77. *See* SENATE NATURAL RESOURCES AND WILDLIFE COMMITTEE, COMMITTEE ANALYSIS OF AB 560, at 2 (June 22, 1999) (stating that mountain lions are not the only cause of the bighorn sheep's demise; disease from domestic sheep and goats has also caused major losses).

78. *See* Glen Martin, *Mountain Lions Wiping Out Sierra Nevada Bighorns*, ROCKY MTN. NEWS, Oct. 11, 1998, at 39A (claiming that there has been no positive demonstration that there is a link between mountain lion predation and the decline of the bighorn sheep).

79. *See id.* (expressing that "predators eat endangered species all the time, it is what they were put on this planet to do").

80. *Id.*

81. *See id.* (stating that there is no proof that eliminating lions will take care of the bigger problems bighorns are facing).

82. *See* Vogel, *supra* note 45, at B1 (expressing that "when a mountain lion stalks a herd, the Mountain Lion Foundation will argue for relocation, not the killing of the cat[;] 'we could kill every single lion on the planet and we would still lose the bighorn sheep in a few years if we do not take some other actions'").

83. CAL. FISH & GAME CODE § 1801 (West 1998).

voters ensured that a sufficient number of California mountain lion species would be maintained when they voted in favor of the California Wildlife Protection Act of 1990.[84] Although this protection has allowed the mountain lion population to flourish, it has caused the population of another California animal species, the Sierra Nevada bighorn sheep, to dwindle to little more than 100 sheep.[85] Thus, in accordance with public policy under California Fish and Game Code section 1801, Chapter 435 is an attempt to "maintain a sufficient population"[86] of bighorn sheep by granting to the DFG an added tool in controlling the prolific mountain lion population. Chapter 435 does not override the special status of the mountain lion; it only grants the DFG the authority to remove mountain lions that are threatening endangered sheep species.[87] The ultimate goal of Chapter 435 is not to kill mountain lions, but is merely to control them in the interest of endangered sheep species.[88] Thus, Chapter 435 does not conflict with any current State policy, and is in fact upholding the State policy of "maintaining sufficient populations of all species"[39] by providing bighorn sheep with the opportunity to prolong the existence of their species for generations to come.

V. CONCLUSION

Chapter 435 is necessary to protect the California bighorn sheep, which is rapidly nearing extinction, and is the only species of its kind in the world. Proposition 117, which increased the protections of mountain lions, was passed in California even though the mountain lion has never been threatened or endangered.[90] The passage of this proposition has resulted in the expansion of the

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84. *See* California Wildlife Protection Act, Prop. 117, § 5 (codified at CAL. FISH & GAME CODE § 4800) (bestowing upon mountain lions a specially protected status under the California law).

85. *See* Elias, *supra* note 41, at A2 (explaining that the protected mountain lions have proliferated, and the bighorn sheep population in California would be much larger today if officials had the ability to hunt mountain lions in their efforts to control them); *see also* SENATE NATURAL RESOURCES AND WILDLIFE COMMITTEE, ANALYSIS OF AB 560, at 2 (June 22, 1999) (stating that the number of bighorn sheep could be as low as 100).

86. CAL. FISH & GAME CODE § 1801 (West 1998); *see also* ASSEMBLY FLOOR, COMMITTEE ANALYSIS OF AB 560, at 3 (May 24, 1999) (asserting that this bill will allow the DFG to efficiently control mountain lions, helping the bighorn sheep to survive); *id.*, at 2 (declaring that the bill is specifically concerned with bighorn sheep, and that mountain lions have been determined to be a cause of the decline in bighorn numbers).

87. CAL. FISH & GAME CODE § 4801 (amended by Ch. 435); *see* ASSEMBLY FLOOR, COMMITTEE ANALYSIS OF AB 560, at 2-3 (May 24, 1999) (expressing that the special status of mountain lions will not be altered if Chapter 435 is enacted).

88. *See* ASSEMBLY FLOOR, COMMITTEE ANALYSIS OF AB 560, at 2 (May 24, 1999) (explaining that the main concern of Chapter 435 is with the plight of the Sierra Nevada bighorn sheep, and that Chapter 435 only authorizes the taking of a mountain lion if it is attacking any endangered and threatened sheep species).

89. CAL. FISH & GAME CODE § 1801 (West 1998); *see* 1999 Cal. Legis. Serv. ch. 435, sec. 2, at 92 (stating that Chapter 435 is consistent with the California Wildlife Protection Act of 1990, and will further its intent).

90. *See* Enochs, *supra* note 23, at 95 (observing that "Proposition 117 was introduced in 1990 because wildlife was increasingly being relegated to shrinking habitat areas within the heavily urbanizing areas of the state"). "The protection of mountain lions afforded by Proposition 117 was not in response to any threat of extinction; the California mountain lion has never been threatened or endangered." *Id.* "Past misperceptions of

mountain lion population, and growing numbers of predating mountain lions now threaten the existence of the Sierra Nevada bighorn sheep population.[91] This situation has pitted two species against each other for the right of protection; mountain lions, protected by a vote of the people, and the bighorn sheep, which are endangered and at risk of vanishing forever.[92] Thus, Chapter 435 is a compromise between a complete ban on the killing of mountain lions on the one hand, and permitting unmitigated sport hunting on the other. In light of the peril facing the Sierra Nevada bighorn sheep, Chapter 435 benefits California by protecting the Sierra Nevada bighorn sheep and simply controlling the mountain lions that threaten endangered sheep species. Chapter 435 "leaves the special status of mountain lions intact," but the DFG will now have the power to protect the bighorn sheep, as well as all endangered sheep species, which is essential if the bighorn sheep are to have any chance of survival.[93]

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a decreasing lion population may be due to either unknown populations or inaccurate counting." *Id.*; *see also* CALIFORNIA SECRETARY OF STATE, JUNE 1990 VOTER INFORMATION GUIDE AND BALLOT PAMPHLET, 42 (1990) (argument in favor of Proposition 117) (arguing that Proposition 117 should be passed because mountain lion hunting is cruel and is not truly a sport, but is "slaughter").

91. *See* Watson, *supra* note 27, at A3 (expressing that only 100 or so Sierra Nevada bighorn sheep still exist because mountain lion numbers have steadily risen, and the lions have begun to hunt bighorn sheep to satisfy their hunger).

92. *See* Vogel, *supra* note 1, at A1 (stating that this is a dilemma which pits the copious mountain lion, with its great public support, against the vanishing bighorn sheep, which has been declared threatened under the State Endangered Species Act).

93. ASSEMBLY FLOOR, COMMITTEE ANALYSIS OF AB 560, at 2-3 (May 24, 1999).

Chapter 731: Protecting the Children of California from Environmental Hazards by Taking Them into Account When Ascertaining and Implementing Environmental Standards

Blake P. Temple

Code Sections Affected

Health and Safety Code §§ 900, 39617.5, 39669.5 (new), 39606, 39660, 40451 (amended).

SB 25 (Escutia); 1999 STAT. Ch. 731

I. INTRODUCTION

Spokespersons for the U.S. Environmental Protection Agency (EPA) have stated firmly that "[h]ealthy children and strong families are fundamental to the future of our nation."[1] A wide array of environmental threats face children today, and current legislative protections are aimed primarily at protecting adults and do not sufficiently protect children.[2] The EPA recognizes this inadequacy and is making children's health a priority.[3]

Children face numerous health threats from environmental exposures, and are often more susceptible to these threats than are adults.[4] According to the Agency for Toxic Substances and Disease Registry (ATSDR), a federal agency, children are clearly at greater risk from environmental hazards than are adults.[5] Some of the factors that put children at higher risk are that: (1) they are outdoors more often than are adults; (2) they are smaller, meaning that they acquire higher doses of toxins per pound of body weight; and (3) they may "sustain permanent damage if

1. OFFICE OF THE ADM'R, ENVTL. PROTECTION AGENCY, EPA 175-F-96-001, ENVIRONMENTAL HEALTH THREATS TO CHILDREN 1 (1996) (copy on file with the *McGeorge Law Review*).

2. Jennifer J. Rega, Comment, *The EPA's National Agenda to Protect Children's Health from Environmental Threats: The Trend to Better Protect Our Nation's Children From Environmental Health Hazards*, 7 DICK. J. ENVTL. L. & POL'Y 119, 119 (1998).

3. *Id.*

4. SENATE RULES COMMITTEE, COMMITTEE ANALYSIS OF SB 25, at 6 (Sept. 8, 1999).

5. *See* Agency for Toxic Substances and Disease Registry, *Why an Emphasis on Children's Health?* (visited June 6, 1999) <http://www.atsdr.cdc.gov/child/about.html> [hereinafter ATSDR] (copy on file with the *McGeorge Law Review*) (stating that children are not simply small adults, and that they are "at greater risk from certain kinds of exposures to hazardous substances emitted from waste sites and emergency events").

toxic exposure occur[s] during critical growth stages."[6] Thus, experts and lawmakers must consider children when determining exposure limits to air toxicants and the impacts that infants and children sustain due to their unique characteristics.[7]

II. BACKGROUND

Chapter 731 addresses children's health and the threat of environmental hazards facing children.[8] The new law creates requirements, deadlines, and a Children's Environmental Health Center, all of which are designed to protect children from environmental health threats.[9]

A. Environmental Hazards and Children

Because children are physically smaller and have higher metabolic rates than adults, they consume a greater amount of air and water per pound than do adults.[10] Thus, if air or water is contaminated, children will receive a larger dose of toxins than adults.[11] Therefore, children and infants are subjected to a greater amount of toxicity than adults.[12]

Due to these factors, children face a disproportionately adverse risk from the environment.[13] "According to a 1997 report from the Natural Resources Defense

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6. *Id.*

7. *See* ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS, COMMITTEE ANALYSIS OF SB 25, at 3-4 (July 6, 1999) (asserting that exposure limits of children to air toxicants should be considered because "infants and children have unique characteristics that make them particularly susceptible to environmental health hazards[;]" for example, exposure is greater for children than adults because the ratio between children's breathing rate to body weight and lung surface area is higher than that of adults).

8. *See* SENATE RULES COMMITTEE, COMMITTEE ANALYSIS OF SB 25, at 2 (Sept. 8, 1999) (stating that SB 25, the precursor to Chapter 731, makes findings and declarations pertaining to the acute adverse environmental effects of air pollution on children, and specifying the intent of the Legislature to ensure that State air standards take such effects into account).

9. CAL. HEALTH & SAFETY CODE §§ 39606, 39660, 40451 (amended by Chapter 731); *id.* §§ 900, 39617.5, 39669.5 (enacted by Chapter 731).

10. Valerie Watnick, Note, *Who's Minding the Schools: Toward Least Toxic Methods of Pest Control in Our Nation's Schools*, 8 FORDHAM ENVTL. L.J. 73, 77 (1996).

11. *Id.* at 77.

12. *See* National Academy Press, Pesticides in the Diets of Infants and Children, Executive Summary, at 9 (1993) (visited Apr. 6, 2000) <http://books.nap.edu/books/0309048753/html/1.html> [hereinafter NAP] (copy on file with the *McGeorge Law Review*) (explaining that an Executive Summary of a National Academy of Science (NAS) report, Pesticides in the Diets of Infants and Children, delineated that when adequate data on a given chemical are lacking, observers should presume a greater toxicity to infants and children).

13. OFFICE OF THE VICE PRESIDENT, THE WHITE HOUSE, VICE PRESIDENT GORE ANNOUNCES NEW DATA SHOWING JULY 1998 WAS HOTTEST MONTH ON RECORD, *reprinted in* ENVTL. PROTECTION AGENCY, 98-R-107, NOTE TO CORRESPONDENTS, VICE-PRESIDENT GORE ANNOUNCES NEW DATA ON CLIMATE CHANGE FOR JULY AND ESTABLISHMENT OF FEDERAL RESEARCH CENTERS TO PROTECT CHILDREN'S HEALTH 2 (1998), *available in* 1998 WL 467879 (copy on file with the *McGeorge Law Review*).

Council," a link exists "between pollution and childhood illness."[14] In the United States, the five environmental threats that have the most negative effects on children are lead, air pollution, pesticides, tobacco smoke, and drinking-water contamination.[15]

Many toxins enter the water supply, which can be a primary source of exposure to pollutants.[16] Every year millions of Americans drink unsafe water, yet water standards for pollutants are based upon the anticipated effects on adults, and do not satisfactorily protect children from the adverse effects of drinking water.[17] Consequently, children are particularly at risk from drinking contaminated water.[18] Because children are in danger due to these types of environmental hazards, decision makers must consider young persons when making public policy and determining environmental standards.[19] Thus, concern that children are in danger from environmental hazards, and the recently emerging focus on children's safety, is long overdue.

B. Existing Law Addressing Environmental Hazards and Children

A number of environmental safety laws have been enacted to protect the health of the public.[20] Existing State law requires that the State Air Resources Board (ARB) adopt State ambient air standards based upon considerations of public health, safety, and welfare.[21] Existing law also mandates that the ARB monitor air

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14. Nat'l Environmental Health Ass'n, *The Five Worse Environmental Threats to Children's Health*, 60 J. ENVT'L HEALTH, May 1, 1998, at 46 (1998) *available in* 1998 WL 14133459 (stressing that "[i]n the last 50 years, more than 75,000 chemicals have been developed and introduced into the environment," [and] the overall incidence of childhood cancer increased [by] 10% between 1973 and 1994").

15. *Id.*

16. *See id.* (stating that "[m]any Americans consume tap water containing microorganisms, trihalomethanes, arsenic, radon, lead, and pesticides").

17. *See id.* (indicating that: (1) "between 1994 and 1995, 45 million Americans drank water from systems that fell short of the standards set by the Safe Drinking Water Act;" and (2) that children are particularly at risk from drinking-water contaminants due to their body size; and (3) that federal standards do not protect children against this risk).

18. *See id.* (explaining that "[c]hildren are at particular risk from drinking-water contaminants not only because they consume two and a half times more water than [do] adults relative to their body weight, but also because federal standards for pollutants are based on anticipated effects on adults").

19. *See* ATSDR, *supra* note 5 (asserting that children depend entirely upon adults to make risk management and legislative decisions to protect them).

20. *See* SENATE COMMITTEE ON ENVIRONMENTAL QUALITY, COMMITTEE ANALYSIS OF SB 25, at 1-2 (Apr. 12, 1999) (identifying several existing laws related to environmental safety); *see also* CAL. GOV'T CODE § 12800 (West Supp. 2000) (creating the California EPA and other environmental agencies); CAL. HEALTH & SAFETY CODE § 39606(b) (West 1996) (requiring that the ARB adopt and monitor State ambient air standards); *id.* § 39607(g) (West 1996) (stating that a method to assess and reduce exposure of pollution to subpopulations such as children and the elderly must be developed); *id.* § 40451(a)-(b) (West 1996) (requiring that the South Coast Air Quality Management District provide notification to the public and to schools when the federal ambient air standard is exceeded).

21. CAL. HEALTH & SAFETY CODE § 40451(a)-(b) (West 1996); *id.* § 39606(a)-(b).

pollutants in cooperation with local air districts, and provides that the Office of Environmental Health Hazard Assessment (OEHHA) should evaluate health effects on humans at the request of the ARB.[22] Also, existing law establishes the California EPA.[23] These California laws are all designed to protect the public. However, they do not adequately or specifically address the environmental problems that children and infants face.[24]

A National Academy of Sciences report released in 1993 brought to the forefront children's heightened sensitivity to environmental threats such as pesticides, and the necessity for further research on children's sensitivity, in order to improve methods of estimating children's exposure to environmental hazards, and to create more rigorous safeguards for the health of infants and children.[25] The Clinton Administration responded, and on April 27, 1997, President Clinton issued Executive Order No. 13045, which initiated action at the federal level to strengthen policies and improve research to protect children from environmental risks, and to ensure that new environmental protections consider children's special susceptibility to these risks.[26] In 1998, the President established eight Children's Environmental Health Research Centers, emphasizing research on children's asthma and other respiratory diseases, declaring that the "aim [of the centers] will be to better understand the causes of environmentally induced disease among children and to eventually decrease their prevalence."[27]

President Clinton has "'call[ed] on national, state and local policy makers . . . to take action to protect our nation's future by protecting our children,'"[28] and the California Legislature has followed the President's lead. The need for Chapter 731 is born out of a past reluctance to create legislation that endorses strict risk assessment guidelines.[29] Arguably, in failing to adopt such guidelines, California

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22. *Id.* § 39660(a)-(e) (West 1996).

23. CAL. GOV'T CODE § 12800 (West 1992).

24. *See* Amy Pyle, *California and the West: Are Children Well-Protected from Toxins? Capitol: Assemblywoman Pushes Bill that Would Toughen Pollution Limits. State Officials Say There Are Enough Shields Now*, L.A. TIMES, Aug. 9, 1998, at A3 *available in* 1998 WL 2452934 (explaining that current risk levels are based on healthy adults and are then modified to take others into consideration, so children are not specifically considered when risk levels are determined).

25. See NAP, *supra* note 12, at 9-12 (referencing the executive summary of an NAS report).

26. Agency for Toxic Substances and Disease Registry, National Progress in Children's Environmental Health and Safety: Federal Executive Order and Task Force (visited June 6, 1999) <http://www.atsdr.cdc.gov/child/whatsnew.html> (copy on file with the *McGeorge Law Review*).

27. *U.S. Health and Human Services: HHS, EPA Launch Children's Environmental Health Research Center*, M2 PRESSWIRE, Aug. 11, 1998, at 1, *available in* 1998 WL 16516896. (copy on file with the *McGeorge Law Review*).

28. Pyle, *supra* note 24, at A3.

29. *See id.* (stating that in the past there has been an "unwillingness to adopt tough risk assessment guidelines").

was deviating from its reputation as the nation's highest acclaimed environmental guardian.[30]

III. CHAPTER 731

A. *Evaluating Environmental Effects on Children*

Chapter 731 recognizes that children are more susceptible to exposure from toxic air contaminants, and provides for the exploration of data to determine the "special susceptibility of infants and children to ambient air pollutants in comparison to the general population."[31] Thus, Chapter 731 requires the ARB to evaluate the current monitoring network for gathering data in order to determine exposure of infants and children to toxic air contaminants, and requires that the ARB recommend changes to protect children.[32] In order to enhance the current monitoring network, Chapter 731 calls for the ARB to identify areas that do not adequately measure exposure of air pollutants to infants and children, and to "[r]ecommend changes to improve air pollution monitoring networks to more accurately reflect the exposure of infants and children to air pollutants."[33] The ARB will expand the program in six communities around California, and will place air pollution monitors near schools, day care centers, and outdoor recreational facilities that are in close proximity to major sources of air pollutants and toxic air contaminants.[34]

At the heart of Chapter 731 is a provision that requires the identification of areas in which the exposure of infants and children to air pollutants is not adequately measured, and improvements to the current monitoring network must be suggested in order to tailor standards for children.[35] Chapter 731 also expands protection against environmental hazards by specifically considering children when determining environmental standards.[36] Further, the new law creates a Children's Environmental Health Center within the Office of the Secretary for Environmental Protection to make recommendations as to improved protections for children.[37]

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30. *See id.* (expressing that Alvin Greenberg, a San Rafael toxicologist and private consultant who served on a Cal-EPA advisory panel in 1996, and others say that the unwillingness to adopt strict risk assessment guidelines evidences the importance of Escutia's legislation, and that they worry that California is slipping from its position as the nation's premier environmental watchdog).

31. CAL. HEALTH & SAFETY CODE § 39660(c)(1)(B) (amended by Chapter 731).

32. *See id.* § 39617.5(a)-(d) (enacted by Chapter 731) (requiring that by no later than January 1, 2003, the state board must evaluate the adequacy of the monitoring network in place and gather data to determine the exposure of infants and children to air pollutants and toxic air contaminants).

33. *Id.* § 39617.5(a)(1)-(3) (enacted by Chapter 731).

34. *Id.* § 39617.5(b) (enacted by Chapter 731).

35. *Id.* § 39617.5(a)(1)-(3) (enacted by Chapter 731).

36. *Id.* § 39660(c)(1)(A)-(D) (amended by Chapter 731).

37. *Id.* § 900(a)-(d) (enacted by Chapter 731).

B. *Efforts to Reduce Exposure to Toxic Air Contaminants*

Chapter 731 establishes deadlines for the ARB to assess the current standards and to make the necessary changes to bring the standards within a range of protection that will benefit infants and children as well as adults.[38] Chapter 731 also creates deadlines and programs to achieve the maximum possible reduction in exposure to toxic air contaminants.[39] In conducting the evaluation of health effects of substances emitted into California's ambient air that may be determined to be toxic air contaminants, evaluators will assess, among other things: (1) exposure patterns likely to result in disproportionately high exposure to infants and children; (2) "special susceptibility of infants and children;" and (3) effects of exposure to toxic air contaminants and other substances on infants and children.[40] Finally, the new law states that the South Coast District, which includes areas of Los Angeles, Orange, and parts of San Bernardino and Riverside counties,[41] must notify all schools and day care centers in the South Coast Air Basin whenever the district predicts federal ambient air pollutant standards will be exceeded.[42]

IV. ANALYSIS OF THE NEW LAW

Before Chapter 731 was amended on September 2, 1999, it encountered a great deal of opposition.[43] Some of the organizations opposing the previous version of Chapter 731 were the California Chamber of Commerce, California Farm Bureau Federation, American Plastics Council, and American Forest and Paper Association, among others.[44] Critics of Chapter 731 argued that existing environmental standards already adequately shield children.[45] Addressing a 1998 Assembly bill equivalent to Chapter 731, Sean Walsh, spokesperson for Governor Pete Wilson, explained that sensitive populations are already protected because data based upon healthy adults is then modified to protect sensitive populations.[46] The Western Crop Protection Association (WCPA) also voiced concerns in May of 1999, noting some

38. *Id.* § 39606(d)-(e) (amended by Chapter 731); *id.* § 39617.5(a)-(d) (enacted by Chapter 731).

39. *See id.* § 39669.5(a)-(d) (enacted by Chapter 731) (expressing that the OEHHA, in consultation with the ARB and the scientific review panel, must develop by July 1, 2001, a list of up to five toxic air contaminants to which infants and children may be especially susceptible, require the ARB to review and revise control measures for the toxic air contaminants in order to reduce exposure to those toxic air contaminants, and set other deadlines to reduce children's exposure).

40. *Id.* § 39660 (amended by Chapter 731).

41. CAL. CODE REGS. tit. 17, § 60104 (1999).

42. *Id.* § 40451(b) (amended by Chapter 731).

43. *See* SENATE RULES COMMITTEE, COMMITTEE ANALYSIS OF SB 25, at 6 (Sept. 8, 1999) (listing 20 verified groups opposing the new law).

44. *Id.*

45. Pyle, *supra* note 24, at A3.

46. *See id.* (referencing Assembly Bill 278, offered by Senator Escutia in 1998).

possible flaws in the bill.[47] The main concern that WCPA offered was that current laws in California are sufficient and offer an "ample margin of safety that accounts for variable effects to humans."[48]

Despite early opposition to Chapter 731, no groups or individuals registered opposition to Chapter 731 after the bill was amended on September 2, 1999.[49] Thus, the question is whether Chapter 731 has the teeth to do what it originally set out to do—that is, to protect children from environmental threats by taking them into account when setting State ambient and toxic air contaminant standards.[50]

Although many laws are designed to protect the public, no existing California environmental legislation expressly protects children to the extent that Chapter 731 does.[51] Because children are at a greater risk of harm from air contaminants than are adults,[52] more stringent safeguards to protect children are imperative.[53] Chapter 731 will likely aid in protecting children from environmental health risks by altering California's standards to take children into consideration. This is evidenced by Chapter 731's creation of the Children's Environmental Health Center to aid in the protection of children;[54] expansion of the monitoring program;[55] evaluation of possible contaminants', other than pesticides' effects on children;[56] and a provision that the OEHAA shall compile a list of the five toxic air contaminants causing children to be most susceptible to illness.[57]

Of all attacks on Chapter 731, the most convincing is the claim that it is too expensive[58] in light of the fact that "California is [already] widely recognized for having the most stringent air quality standards in the world."[59] The assertion that California already has the highest air quality standards in the world suggests that

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47. Steve Forsberg, *Opposition to SB* 25 (visited May 12, 1999) <http:// www.wcpa.org/html/xlca520a.htm> (copy on file with the *McGeorge Law Review*).

48. *Id.*

49. Telephone Interview with Wendy Umino, Spokesperson for Senator Martha M. Escutia, Sacramento, Cal. (Oct. 6, 1999) (notes on file with the *McGeorge Law Review*).

50. *See* 1999 Cal. Stat. ch. 731, sec. 1(g), at 3 (stating that Chapter 731 was intended to protect children by taking them into account in setting California's air quality standards).

51. Pyle, *supra* note 24 and accompanying text.

52. *See* Watnik, *supra* note 10, at 77 (expressing that children are physically smaller than adults, and that they have higher metabolic rates and therefore consume more air and water than do adults per pound of body weight; thus, if the air or water is contaminated with toxins, children will receive a larger dose of toxins than adults); *id.* (stating that children are lower to the ground than are adults and are more likely to play on floors and grassy areas where chemical particulates settle).

53. ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS, COMMITTEE ANALYSIS OF SB 25, at 3-4 (July 6, 1999).

54. CAL. HEALTH & SAFETY CODE § 900 (enacted by Chapter 731).

55. *Id.* § 39617.5(b)-(c) (enacted by Chapter 731).

56. *Id.* § 39660 (amended by Chapter 731).

57. *Id.* § 39669.5(a)(1).

58. *See* Forsberg, *supra* note 47 (explaining that Chapter 731 would result in an expensive risk assessment and reworking of California law without creating a substantial benefit to the people of California).

59. *Id.*

the Legislature does not have the ability to improve upon the State's current air quality standards. However, in the South Coast Basin region alone, "an estimated 1600 people die prematurely each year due to smog."[60] Studies have shown that this smog may cause severe damage to vulnerable people, such as the elderly and children, and it also induces health problems in adults who actively exercise.[61] These health problems have occurred despite the South Coast Air Basin's existing environmental standards, which exceed the federal and State standards.[62] Thus, it is incumbent upon the State Legislature to take the steps outlined in Chapter 731 in order to ameliorate the environmental problems all Californians face, and deal with the acute risks confronting children in particular.

V. CONCLUSION

Chapter 731 attempts to address the environmental health hazards which confront children and infants today.[63] Because children are at greater risk of developing health problems from environmental hazards, the Legislature must enact laws that protect the future of the State's children.[64] Chapter 731 is a reaction to the evident need to protect the children of California because children are more sensitive to environmental hazards, a fact which laws prior to Chapter 731 did not specifically address.[65]

Chapter 731 is designed to protect the children of California by establishing provisions that take steps towards raising the standards of environmental safety, as well as taking measures to protect children when those standards are exceeded.[66] Due to the increased research and testing regarding children's unique susceptibility to environmental hazards, the magnitude of the danger to children from environmental hazards has become apparent, and has further elucidated the

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60. Air Quality Management District, *Smog Levels* (visited Oct. 15, 1999) <http://www.aqmd.gov/smog/inhealth.html> [hereinafter AQMD] (copy on file with the *McGeorge Law Review*).

61. California Environmental Protection Agency, *Air Resources Board Sets New Warning Level for Urban Smog* (visited Oct. 15, 1999) <http://arbis.arb.ca.gov/newsrel/nr091390.htm> (copy on file with the *McGeorge Law Review*).

62. *See* AQMD, Current Air Quality and Trends in the South Coast Air Quality Management District: 1997 Air Quality (visited Oct. 15, 1999) <http://www.aqmd.gov/smog/97aqrmain.html> (copy on file with the *McGeorge Law Review*) (expressing that in 1997, the "annual maximum concentrations of ozone, carbon monoxide, and particulate matter" in the South Coast Air Basin exceeded both federal and state standards in some or all areas).

63. *See supra* Parts II.A, III.A-B (explaining how Chapter 731 addresses the environmental health hazards confronting children).

64. *See supra* text accompanying notes 11-19 (indicating that children are at greater risk from environmental hazards than are adults, and therefore need lawmakers to consider their special needs).

65. *See supra* text accompanying notes 4 and 24 (discussing children's vulnerability to environmental hazards, and that laws prior to Chapter 731 did not consider the susceptibility of children).

66. *See supra* Parts III.A-B, IV (explaining that effects of the environment will be evaluated and changes will be imposed to adequately consider environmental risks to children).

protections that have been implemented and designed primarily to protect adults.[67] Hence, the new law is a much-needed step in California's system of environmental protection.

67. Pyle, *supra* note 24 and accompanying text.

Nonpoint Source Pollution and the "Semi-Clean" Water Enforcement and Pollution Prevention Act of 1999

David S. Wilgus

Code Sections Affected
Water Code §§ 13263.3, 13263.6, 13362 (new), 13385 (amended).
SB 709 (Budget Committee); 1999 STAT. Ch. 93

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I. INTRODUCTION

Water has always been a hotly contested natural resource in California.[1] Diverse and competing interests, including urban, agricultural, recreational, and

1. *See California's Water Resource* (visited July 18, 1999) <http://wwwdwr.water.ca.gov/dir-CA_Water_Resource/CA_Water_Resource.html> [hereinafter California's Water Resource] (copy on file with the *McGeorge Law Review*) (stating that throughout California's history, water has been a vital but scarce natural resource).

environmental groups, lay claim to the State's developed water supplies.[2] In addition to their worries about the quantity of water available to the State, Californians are also concerned with the quality of their water.[3] Increasing awareness of environmental problems has driven modern Californians to take a more pro-active role in environmental and ecological matters,[4] and has influenced lawmakers to take a more careful look at protecting California's land and water. Sensing public sentiment toward the environment, the California Legislature has kept a watchful eye on the State's natural resources.[5] To find a focus for their stewardship efforts, lawmakers did not have far to look. The Sacramento-San Joaquin Delta, "the epicenter of California water politics, is in a state of decline."[6] This decline in Delta-area water is evidenced by an overall degradation in the quality of water pumped from the Delta—an area that supplies water to two-thirds of California's population.[7]

California's water quality problems do not stop with the Delta, however. With thousands of acres of farmland as well as hundreds of miles of rivers and coastline, California is both dependent upon and inundated by water.[8] Through California's quest to grow food and support its population, human activity has managed to undermine the purity of the State's waters.[9] Polluted water creates environmental and human health problems, and ruins the beauty of healthy, clean water habitats.[10]

California's most recent pollution prevention law, Chapter 93, attempts to alleviate California's water pollution problems through increased monitoring of

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2. *Id. See generally id.* (stating that California's developed water supplies go to the following interests in the following proportions: 10.7% for urban areas, 42.2% for agricultural interests, 44.7% for environmental purposes, and 2.4% recreation/energy production interests).

3. *Id.*

4. *See Nonpoint Source Pollution: The Nation's Largest Water Quality Problem* (visited Sept. 12, 1999) <http://www.epa.gov/OWOW/NPS/facts/point1.htm> (copy on file with the *McGeorge Law Review*) (explaining that public interest in protecting the environment and actively remedying water quality problems is evidenced by the fact that more citizens practice water conservation and participate in stream walks, beach cleanups, and other environmental activities sponsored by community-based organizations).

5. *See infra* text accompanying note 41 (quoting the Legislature's words, which show that the Legislature sees itself as an environmental steward for society).

6. JEFFREY F. MOUNT, CALIFORNIA RIVERS AND STREAMS: THE CONFLICT BETWEEN FLUVIAL PROCESS AND LAND USE 199 (1995).

7. *Id.*

8. *See California State Symbols, Capital, Constitution, Flags, Maps, Song* (visited Nov. 12, 1999) <http://www.50States.com/californ.htm> (copy on file with the *McGeorge Law Review*) (reporting that California has a total area of 163,707 square miles and that water covers 7,734 of these square miles); *id* (stating that California has 840 miles of coastline and 3,427 miles of shoreline); *see also* MOUNT, *supra* note 6, at *xi* (noting that the hundreds of miles of rivers in California carry wastes away from agricultural and urban areas and sporadically "inundate our homes, erode our property . . . forming one of the state's most pernicious natural hazards"); *id.* at 192-93 (explaining that California's dependence on water has prompted large-scale government-directed water projects to supply water to the ever growing urban centers of southern California).

9. *See infra* note 66 and accompanying text (noting legislative findings that human activities such as agriculture and recreation contribute to water pollution in California).

10. *Nonpoint Source Pollution, supra* note 4.

polluters and strict enforcement of penalties.[11] Unfortunately, Chapter 93, like previous attempts at pollution control, will have a limited impact on environmental quality because Chapter 93 only affects point source polluters, who cause only one-half of the State's water quality problems.[12] Nonpoint source polluters will remain largely unchecked[13] as Chapter 93 gives them little incentive to restructure their operations and decrease their contributions to water pollution in California.

II. LEGAL BACKGROUND

California Water Code section 13385 describes the circumstances under which a person[14] may be civilly liable for activities which cause or which have the potential to cause pollution. The courts may impose liability pursuant to a determination of a violation of State or federal law.[15] After a petition by the Attorney General, the superior court may impose civil liability upon a violator.[16] However, this liability may not exceed certain specified amounts.[17] The State Water Resources Control Board[18] ("state board" or "board") or a regional board may impose liability administratively.[19] However, as is the case with the liability that the superior court may impose, this penalty is also limited.[20]

When determining the amount of liability to impose under this section, the superior court, the state board, or a regional board must take into account various factors, including the nature, circumstances, extent, and gravity of the emission.[21] In addition, the court, state board, or regional board may take into account the

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11. *Infra* Part III.

12. *Infra* text accompanying note 76.

13. *Infra* text accompanying note 91.

14. *See* CAL. WATER CODE § 19 (West 1971 & Supp. 2000) (defining a person as "any person, firm, association, organization, partnership, business trust, corporation, limited liability company, or company").

15. *See id.* § 13385(a) (amended by Chapter 93) (indicating that liability shall be assessed if one violates sections 13375, 13376, or 13383 of the California Water Code, any waste discharge requirements or dredge and fill permit, or various sections of the Federal Water Pollution Control Act, 33 U.S.C.A. §§ 1311, 1312, 1316, 1317, 1318, 1328, 1345).

16. *Id.* § 13385(b) (amended by Chapter 93).

17. *See id.* (stating that civil liability may not exceed $25,000 per day when the liable party has violated the law, and that after the violation, liability may not exceed $25,000 for the volume discharged but not cleaned up).

18. *See* William R. Attwater & James Markie, *Overview of California Water Rights and Water Quality Law*, 19 PAC. L.J. 957, 996 n.158, 997 (1988) (explaining that the California Legislature created the State Water Resources Control Board in 1967 to establish state water quality control policies and effectuate parts of the federal Clean Water Act); *see also id.* at 1005-07 (detailing the purposes and functions of the board, including the initiation of hearings and conduction of investigations regarding water quality issues, the determination of budgets, and the licensing of sewage treatment facilities).

19. CAL. WATER CODE § 13385(c) (amended by Chapter 93).

20. *See id.* (indicating that the state board or a regional board may administratively impose civil liability in the amount of $10,000 for each day in which a violation occurs or continues, and $10,000 per day for any portion of the discharge not cleaned up).

21. *Id.* § 13385(e) (amended by Chapter 93).

violator's ability to pay, prior history of violations, degree of culpability, and any economic benefit or savings resulting from the violation, along with any other matters as justice requires.[22] Once liability is imposed, a violator may be subject to additional liability for failure to pay on a timely basis.[23] Funds collected as a result of penalties imposed are placed in the State Water Pollution and Abatement Account.[24]

III. CHAPTER 93

Chapter 93 is a legislative response to the question of how effectively to remedy water quality problems within the State.[25] "Recent investigations indicate that current enforcement efforts of the state board and the regional boards may not be achieving full compliance with waste discharge requirements in a timely manner."[26] With Chapter 93, the Legislature declares that "swift and timely enforcement of waste discharge requirements will assist in bringing the State's waters into compliance [with health standards,] and will ensure that violators do not realize economic benefits from their noncompliance."[27] Chapter 93 is an effort to add teeth to section 13385 as well as to establish a more comprehensive monitoring and prevention program for pollutants in the State's waters.[28]

A. *Minimum Liability, Mandatory Minimum Penalties, and Annual Reports*

Chapter 93 keeps the existing provisions of section 13385 intact, but adds three important amendments to the section. First, aware that a person could realize economic benefits through discharging waste water in a manner that pollutes the State's waters, the Legislature now mandates that when the court or water board assesses the liability of a polluter, "[a]t a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation."[29]

The second important amendment to section 13385 is the assessment of mandatory minimum penalties for a polluter, or the performance of a comparable

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22. *Id.*

23. *See id.* § 13385(k) (amended by Chapter 93) (requiring anyone who does not pay in a timely manner to pay the penalty imposed plus interest, attorney's fees and nonpayment penalties).

24. *Id.* § 13385(i) (amended by Chapter 93).

25. *See infra* text accompanying note 41 (reasoning that prevention is the first step in the effort to curb water pollution).

26. 1999 Cal. Legis. Serv. ch. 93, sec. 2, at 1453.

27. *Id.*

28. *See infra* Part III.A (describing Chapter 93's monitoring program and its minimum liability penalty provisions).

29. CAL. WATER CODE § 13385(e) (amended by Chapter 93).

alternative.[30] Chapter 93 provides for a mandatory minimum penalty of $3,000 for the first serious violation in a six-month period.[31] However, at the election of one of the boards, in lieu of assessing this penalty, a discharger may be required to spend an amount equal to the penalty to develop a pollution prevention plan (PPP) or to fund a supplemental environmental project.[32] A "supplemental environmental project" is an environmentally beneficial project that a person agrees to undertake with the approval of the regional board, but which the person might not undertake in the absence of an enforcement action under section 13385.[33] The PPP will be discussed below.[34] Chapter 93 assesses minimum mandatory penalties of $3,000 if a person commits two or more serious violations in any six-month period, or does any of the following four or more times in any six-month period: discharges in excess of a toxicity discharge limitation; discharges in excess of a waste discharge requirement effluent limitation; or fails to file a report pursuant to section 13260, or files an incomplete report.[35] However, Chapter 93 does not impose mandatory penalties if an act of war, an "unanticipated, grave natural disaster," or the "intentional act of a third party" causes the violation.[36]

The third addition Chapter 93 makes to section 13385 is the requirement that the state board report annually to the Legislature regarding its enforcement activities.[37] The state board must submit the report to the chairperson of the Assembly Committee on Environmental Safety and Toxic Materials and to the chairperson of the Senate Committee on Environmental Quality.[38] The report will document the number of violations of waste discharge requirements in the past year and the enforcement actions taken for each violation.[39] The report will also contain an analysis of the effectiveness of current enforcement policies—specifically, minimum mandatory penalties—as well as any recommendations for improving the enforcement program in the following year.[40]

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30. *Id.* § 13385 (h)(1) (amended by Chapter 93).

31. *Id.*; *see id.* § 13385(h)(2) (amended by Chapter 93) (describing "serious violation" as any waste discharge that excerpt specifies limitations for certain types of pollutants as specified in Appendix A to 40 C.F.R. § 123.45).

32. *Id.* § 13385(h)(1) (amended by Chapter 93).

33. *Id.* § 13385(h)(3) (amended by Chapter 93).

34. *Infra* Part III.B.

35. CAL. WATER CODE § 13385(i)(1)-(2) (amended by Chapter 93); *see id* § 13260 (requiring all persons discharging wastes that could affect the quality of waters within California to file a report of discharge with the appropriate regional board).

36. *Id.* § 13385(j)(1)-(3) (amended by Chapter 93).

37. *Id.* § 13385(m)(1) (amended by Chapter 93).

38. *Id.* § 13385(m)(1)-(2) (amended by Chapter 93).

39. *Id.* § 13385(m)(1)(A)-(B) (amended by Chapter 93).

40. *Id.* § 13358(m)(1)(C)-(D) (amended by Chapter 93).

B. The Pollution Prevention Plan

Perhaps the most salient feature of Chapter 93 is its addition of section 13263.3 to the California Water Code. Declaring that "pollution prevention should be the first step in a hierarchy for reducing pollution[,] . . . managing wastes, and . . . achiev[ing] environmental stewardship for society[,] the Legislature finds . . . that pollution prevention is necessary to support the federal goal of zero discharge of pollutants into navigable waters."[41] This finding has given rise to the pollution prevention plan (PPP).

Under Chapter 93, "pollution prevention" refers to any steps taken by a person that are geared to result in a net reduction of hazardous substances or other pollutants that later are discharged into water.[42] A person may not shift pollutants from one environmental medium to another unless doing so would clearly yield environmental benefits.[43] One of the boards or a publicly owned treatment work (POTW) may require a discharger subject to its jurisdiction to complete and implement a PPP if the discharger is a chronic violator,[44] the discharger significantly contributes or has the potential to significantly contribute to the creation of a toxic hot spot,[45] or a board or POTW determines that pollution prevention is necessary to achieve a water quality objective.[46] The state board's task is to adopt a PPP sample format, to be used by a discharger, which addresses all the factors the discharger must include in the plan.[47] Chapter 93 compels a discharger other than a POTW to implement a PPP, which includes nine requirements, such as an analyses of pollutants released as well as preventive measures which a POTW could take to reduce these discharges.[48] In the event the state board or regional

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41. *Id.* § 13263.3(a) (enacted by Chapter 93).

42. *Id.* § 13263.3(b)(1) (enacted by Chapter 93).

43. *Id.* § 13263.3(b)(2) (enacted by Chapter 93).

44. *Id.* § 13263.3(d)(1)(A) (enacted by Chapter 93).

45. *Id.* § 13263.3(d)(1)(B) (enacted by Chapter 93); *see id.* § 13391.5(e) (West 1992) (explaining that a "toxic hot spot" includes, inter alia, areas in enclosed bodies of water where hazardous substances have accumulated in the water or sediment level, perhaps posing a present or potential hazard to the health of humans or other animals).

46. *Id.* § 13263.3(d)(1)(C) (enacted by Chapter 93).

47. *Id.* § 13263.3(j) (enacted by Chapter 93).

48. *Id.* § 13263.3(d)(2)(A)-(I) (enacted by Chapter 93); *see id.* specifically these factors include: (1) an analysis of the pollutants, a description of their sources, and a review of the procedures the discharger utilizes in the creation and release of the substances; (2) a report on potential methods for pollution prevention, complete with an analysis of possible negative impacts on the environment as a result of the use of these methods; (3) a description of such elements of the pollution prevention techniques as the schedules and tasks required in their application; (4) "[a] statement of the discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action"; (5) a reiteration of the pollution prevention measures that the discharger currently employs; (6) information supporting a statement clarifying that those currently employed methods do not result in "cross media pollution transfers unless clear environmental benefits of such an approach are identified to the satisfaction of the state board, the regional board, or the POTW"; (7) proof that the

board requires a POTW to complete and implement a PPP, the POTW will have to comply with nine similar requirements.[49] Chapter 93 requires a discharger to comply with the PPP only after an opportunity to comment at a public proceeding concerning the plan.[50]

Pursuant to section 13263.3, the state board or a regional board may assess civil penalties if a discharger does not complete a PPP, submits a plan that does not conform to Chapter 93, or fails to implement the plan, if the POTW has not already assessed penalties for the same omission or action.[51] Likewise POTW's may also assess civil and civil administrative penalties against a discharger for breaching those rules.[52]

However, the PPP is somewhat flexible. A discharger who gains the approval of the executive officer of the state or regional board or POTW may change the plan, or even withdraw from a PPP, if one or both of the following situations arise: (1) the discharger makes the determination "that the measure will have a negative impact on product quality, the safe operation of the facility, or the environmental aspects of the facilities operation"; or (2) the discharger determines that the

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discharger is in compliance with the Hazardous Waste Source Reduction and Management Review Act of 1989, if the discharger falls within the scope of the Act; (8) a cost-benefit analysis of the potential pollution prevention methods; and (9) "[a] specification of, and rationale for, the technically feasible and economically practicable pollution prevention measures selected by the discharger for implementation").

49. *Id.* § 13263.3(d)(3)(A)-(I) (enacted by Chapter 93); *see id.* (specifying that these requirements include:

(A) An estimate of all the sources of a pollutant contributing, or potentially contributing, to the loading of that pollutant in the treatment plant influent.

(B) An analysis of the methods that could be used to prevent the discharge of the pollutants into the POTW, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the POTW. The analysis shall identify sources, or potential sources, not within the ability or authority of the POTW to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.

(C) An estimate of load reductions that may be attained through the methods identified in subparagraph (B).

(D) A plan for monitoring the results of the pollution prevention program.

(E) A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention program.

(F) A statement of the POTW's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the POTW's intended pollution prevention activities for the immediate future.

(G) A description of the POTW's existing pollution prevention programs.

(H) An analysis[,] to the extent feasible, of any adverse environmental impacts, including cross media impacts or substitute chemicals, that may result from the implementation of the pollution prevention program.

(I) An analysis[,] to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program).

50. *Id.* § 13263.3(e) (enacted by Chapter 93).

51. *Id.* § 13263.3(g) (enacted by Chapter 93).

52. *Id.* § 13263.3(h) (enacted by Chapter 93).

measure is "economically impracticable or technologically infeasible."[53] However, simply because a discharger can show a negative impact or impracticability for which he or she may withdraw from the pollution prevention measure does not mean that the discharger may resume previous operations. Where practical and feasible, the discharger must replace the withdrawn measure with another procedure calculated to achieve similar pollution prevention goals.[54]

Chapter 93 also adds two more sections to the California Water Code. Section 13263.6 authorizes the regional board to prescribe effluent limitations as part of the waste discharge requirements of a POTW for substances for which the state board or regional board has established numeric water quality objectives.[55] Section 13362 allows a POTW with an approved pretreatment program to conduct inspections as well as assess and collect civil penalties from all dischargers of industrial waste who discharge into the POTW.[56]

IV. ANALYSIS OF CHAPTER 93

A. *Agriculture, Pesticides, and the Failure of Chapter 93 to Effectively Remedy Nonpoint Source Pollution*

In general, water quality enforcement schemes seek to accomplish three goals: deterrence, compensation, and punishment.[57] Chapter 93 is designed to meet these three goals and to "get tough" on polluters. By mandating that, at a minimum, courts shall assess liability at a level on which the State can recover the economic benefits derived from the acts that constitute the violation,[58] Chapter 93 eliminates the economic incentive to pollute. Violators compensate the State as collected penalties are put into the State Water Pollution Cleanup and Abatement Account, and then used for environmental cleanup.[59] Instituting certain mandatory minimum penalties reinforces the notion that the State will punish a polluter.

The two main types of water pollution that Chapter 93 deals with are point source pollution and nonpoint source pollution.[60] Generally, the term "point source"

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53. *Id.* § 13263.3(i) (enacted by Chapter 93).

54. *Id.*

55. *Id.* § 13263.6(a) (enacted by Chapter 93).

56. *Id.* § 13362(a) (enacted by Chapter 93).

57. Diane Price Taylor, *Assessment of Civil Monetary Penalties for Water Pollution: A Proposal for Shifting the Burden of Proof Regarding Damages*, 30 HASTINGS L.J. 651, 667 (1979).

58. CAL. WATER CODE § 13385(e) (amended by Chapter 93); *see also id.* § 13385(i) (amended by Chapter 93) (listing the conditions under which the courts or water board must assess mandatory penalties).

59. *Id.* § 13385(l) (amended by Chapter 93).

60. *See* 1999 Cal. Legis. Serv. ch. 93, sec. 2(a)-(b), at 1453 (using the term "nonpoint source pollution" twice and "point source pollution" twice). Although the actual code sections do not mention the term "point source" pollution, California Water Code sections 13263.3, 13263.6, 13362, and 13385 clearly speak to point source polluters. With no enforcement efforts aimed at nonpoint source polluters, Chapter 93 provides little

describes readily identifiable and confined discharges of pollutants from individual sources, such as a factory or water treatment plant pipe, ditch, or channel.[61] In contrast, "nonpoint source" pollution results from agricultural and silvicultural activities, including run-off from fields, run-off from crop and forest land, and run-off and siltation from mining and construction activities.[62] Point source pollution can be monitored relatively easily, because measurable amounts of pollutants may be monitored coming out of a discernible pipe which can be traced to an identifiable entity.[63] However, nonpoint source pollution is comprised of countless independent sources, and presents an even greater challenge to regulation and pollution control.[64]

Although mentioned twice by name,[65] nonpoint source pollution receives cursory and minimal attention from Chapter 93. The Legislature found that the sources of water quality impairments in California are diverse and include nonpoint sources such as agriculture, forestry, urban dry weather run-off, storm water run-off, residential on-site sewage disposal systems, boats, and marinas.[66] However, Chapter 93 does nothing meaningful or substantial to solve the problems that these sources cause.

Of the nonpoint sources the Legislature recognizes as contributing to water quality impairments, perhaps no single factor that contributes to impairments is as important to California as agriculture.[67] Of all the water produced in the State by rain and melting snow, approximately sixty percent is used by native vegetation or lost by evaporation.[68] The remainder runs into streams, rivers, lakes, and reservoirs to become the sources for California's developed water supplies.[69] Farmers use approximately 42.2% of run-off for agriculture.[70]

Agriculture is a very important part of California's economy which uses a sizeable amount of the State's developed water supplies.[71] Producing more than 250 different crops and livestock commodities, this modern and highly technological $20-billion-a-year industry not only provides many of the State's jobs, but also provides Californians with relatively low-cost food and serves as the backbone of California's rural economy.[72] Despite the benefits that California's 31 million acres

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incentive for nonpoint source polluters to vary their practices to decrease pollution.

61. Attwater & Markle, *supra* note 18, at 957, 997.

62. 61A AM. JUR. 2D *Pollution Control* § 143 (1981).

63. Chelsea H. Congdon et al., *Economic Incentives and Nonpoint Source Pollution: A Case Study of California's Grasslands Region*, 2 HASTINGS W.-N.W. J. ENVTL. L. & POL'Y 185, 186 (1995).

64. *Id.*

65. 1999 Cal. Legis. Serv. ch. 93, sec. 2(b), at 1453.

66. *Id.*

67. *See infra* notes 72-81 (explaining that California has a huge agricultural base and that nonpoint source pollution from agriculture is estimated to contribute to half of California's water pollution problems).

68. *California's Water Resource*, *supra* note 1.

69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.*

of farmland present, agriculture is the most pervasive cause of nonpoint source water quality problems.[73]

"The problem of nonpoint source pollution from farms cannot be overstated."[74] Agricultural run-off is the single largest contributor to nonpoint source pollution and is the primary cause of all water quality-impaired rivers, lakes, and streams in California.[75] Estimates suggest that nonpoint source pollution from agriculture generates more than half of the water pollution in California today.[76] Understandably, sediment originating from agricultural lands as well as agricultural fertilizers, pesticides, herbicides, insecticides, and rodenticides contain pollutants that can contaminate waterways when agricultural run-off carries them into rivers and lakes.[77]

More than 10,000 different brands of pesticides are approved for use in California, and the more than 160 million pounds of pesticides and herbicides that California's farmers use each year account for one-third of the total amount of pesticides used in the United States.[78] Rivers transport pollutants as they ship the products of erosion and agricultural run-off from Central Valley farmland to the Pacific Ocean and other "sinks."[79] Agricultural run-off can also threaten the purity of groundwater, and it creates serious local and regional problems in the State's water wells.[80] Salt and toxic metal-bearing return flows from agricultural drains further degrade water quality throughout the State.[81] "[T]he problem of effectively controlling water pollution from agricultural drainage [in California] . . . has challenged and frustrated [lawmakers,] farmers, and environmentalists alike."[82]

Language in the amended California Water Code section 13263.3 suggests that the Legislature has contemplated, but not committed itself to, combat nonpoint

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73. George A. Gould, *Agriculture, Nonpoint Source Pollution, and Federal Law*, 23 U.C. DAVIS L. REV. 461, 464 (1990); *California's Water Resource*, *supra* note 1; *see also* MOUNT, *supra* note 6, at 6 (explaining that beef cattle and sheep are also contributors to California's nonpoint source pollution problems); *id.* (stating that these animals graze over 70,000 square miles of the State's watersheds and trample thousands of miles of riparian corridor, contributing to excessive rates of erosion and run-off caused by removal of vegetation and compaction of soil, changing run-off characteristics and sediment supply, and compromising the stability of river channels). *See* MOUNT, *supra* note 6, at 248-52 (explaining that overgrazing of cattle contributes to instability of grazing lands and increases sediment supply, which directly affects the water quality of streams); *see also id.* at 254, 262-65 (noting that George Washington and Thomas Jefferson recognized erosion to be a fundamental cause of declining farm productivity, and that the build-up of salts, toxic metals, and other chemicals has not only leached the soils of nutrients and contributed to salt build-ups, but has also contributed to nonpoint source pollution when introduced to streams via run-off).

74. MOUNT, *supra* note 6, at 247.

75. Congdon et al., *supra* note 63, at 137.

76. MOUNT, *supra* note 6, at 247.

77. *Id.* at 256-59, 265.

78. *Id.* at 256-58.

79. *Id.* at 9.

80. *Id.* at 200; Gould, *supra* note 73, at 464-68.

81. MOUNT, *supra* note 6, at 247.

82. Congdon et al., *supra* note 63, at 136.

source pollution. "Input change,"[83] "Operational improvement,"[84] "Production process change,"[85] and "Product reformulation"[86] are terms in the statute that seem to capture and mimic ideas advanced by experts as ways to control nonpoint source pollution. For instance, in his article *Agriculture, Nonpoint Source Pollution, and Federal Law*, Professor Gould examines various farming strategies and techniques, such as crop rotation and sediment management, which are designed to reduce sediment loss and sediment pollution.[87] Crop rotation, the planting of pest resistant crops, and the use of biological controls and integrated pest management can reduce or eliminate the use of pesticides and chemical fertilizers, consequently reducing the amount of pesticides transported to water by agricultural run-off.[88] In theory, at least, California can reduce, monitor, and possibly prevent agricultural nonpoint source pollution.[89] Nonpoint source polluters can vary their practices and reduce pollution by implementing the aforementioned practices.[90] However, monitoring and enforcement activity provisions target point source polluters.[91]

Chapter 93 fails to advance a comprehensive plan for agricultural nonpoint source pollution—a massive yet preventable problem in California.[92] Indeed,

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83. *See* CAL. WATER CODE § 13263.3(b)(1)(A) (enacted by Chapter 93) (defining "[i]nput change" as "a change in raw materials or feedstocks used in a production process or operation so as to reduce, avoid, or eliminate the generation of pollutants discharged in wastewater").

84. *See id.* § 13263.3(b)(1)(B) (enacted by Chapter 93) (presenting "[o]perational improvement" as "improved site management so as to reduce, avoid, or eliminate the generation of pollutants discharged in wastewater").

85. *See id.* § 13263.3(b)(1)(C) (enacted by Chapter 93) (defining "[p]roduction process change" as "a change in a process, method, or technique that is used to produce a product or a desired result, including the return of materials or their components for reuse within the existing processes or operations, so as to reduce, avoid, or eliminate the generation of pollutants discharged in wastewater").

86. *See id.* § 13263.3(b)(1)(D) (enacted by Chapter 93) (declaring that "[p]roduct reformulation[s]" are "changes in design, composition, or specifications of end products, including product substitution, so as to reduce, avoid, or eliminate the generation of problem pollutants discharged in wastewater").

87. Gould, *supra* note 73, at 468-69.

88. *Id.* at 469; *see id.* (noting that these alternative farming techniques can be as competitive and productive as traditional farming).

89. *See* Congdon et al., *supra* note 63, at 193 (arguing that:

> [a]n important first step in controlling nonpoint sources is to dispel the misperception that nonpoint source pollution is necessarily diffuse and therefore difficult or impossible to manage or regulate . . . In fact, many categories of nonpoint source pollution are comprised of numerous individual sources that can be identified and monitored. This is particularly true in the case of irrigated agriculture where many engineered ditches, canals, and drains convey drainage waters to an ultimate point of discharge. These conveyances make the sources of pollution identifiable. Moreover, the quantity of drainage generated is a direct function of water application and water use efficiency, both of which can be measured and controlled).

90. *See supra* note 60 (explaining that all of Chapter 93's enforcement efforts are aimed at point source polluters).

91. *Id.*

92. *See supra* notes 87-88 and accompanying text (presenting alternatives to modern agricultural practice which would decrease agricultural pollutants in farm water run-off).

Chapter 93 will not completely resolve the problem,[93] as the abatement of nonpoint source pollution will require multifaceted efforts—efforts far beyond those that a simple statute or group of ordinances can accomplish.[94] Scientists and farmers understand the problem reasonably well, and potentially could implement techniques to reduce or eliminate various forms of agricultural water pollution; however, agricultural water pollution is less a technical problem than a social, political, economic, and legal one.[95] Therefore, the answer to the nonpoint source pollution problem will have to be forged through the collective efforts of lawmakers, farmers, and scientists. In this way, each group's interests will be represented and balanced in a manner that will ultimately benefit the environment and society as a whole; California will be able to produce food and stimulate the State's rural economy, while California citizens enjoy the benefits of cleaner water.

Despite the foregoing, much remains to be learned about agricultural nonpoint source pollution.[96] The chemical behavior of pesticides in the environment, their effects on aquatic and riparian systems, and the frequency of contamination are poorly understood.[97] For instance, most newer chemical pesticides available today are highly unstable, quickly breaking down in natural environments, but scientists do not fully understand the biological and water quality impacts of the broken-down products themselves.[98] Nonpoint source pollution prevention is a massive and complex problem, and Chapter 93—perhaps rightfully—does not address it in any meaningful way.

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93. The statute itself comes with a built-in admission that more action will be needed to control nonpoint source pollution. *See* 1999 Cal. Legis Serv. ch. 93, sec. 2(e), at 1453 (admitting that in order to "attain water quality standards in the state's waters, *additional* efforts are also needed to control threats to the health of the state's waters that are posed by nonpoint sources of pollution" (emphasis added)).

94. *See id.* (emphasizing that additional efforts are needed in order to curb nonpoint source pollution).

95. Gould, *supra* note 73, at 468; *see* Congdon et al., *supra* note 63, at 193 (complementing this point and emphasizing that:

> [t]he real challenge of controlling agricultural nonpoint source pollution is to design an approach that is sufficiently flexible to address myriad individual sources, yet still achieves the environmental goals. Flexibility is best achieved through a decentralized decisionmaking process so that farmers can adapt control technologies to site specific conditions. In this way, farmers also will be able to minimize the costs of pollution control. The desire for flexibility, however, cannot override the need to ensure that the program achieves water quality goals. Accordingly, institutional mechanisms must be established to shift responsibility for pollution control to the farmers, just as point source dischargers are accountable for their discharges. Finding a method to provide this accountability in a practical way has been the missing link in nonpoint source pollution control.).

96. Gould, *supra* note 73, at 471.

97. MOUNT, *supra* note 6, at 258.

98. *Id.* at 259.

B. Opposition and Support for Chapter 93

The situation that Chapter 93 does address is pollution from point source polluters.[99] Chapter 93 seeks to monitor, regulate, and eliminate the discharge of pollutants into California's waters.[100] However, Chapter 93 is not without controversy. Certain POTWs have expressed opposition to the law, directing many of their concerns at the PPP requirements, the inclusion of effluent limits referenced to the Toxics Release Inventory substances, and the imposition of mandatory penalties, opting instead for more narrow and individualized pollution prevention requirements for POTWs.[101]

Opponents of Chapter 93 claim that the PPPs are overly burdensome, pose "potentially significant costs for businesses," and "may not actually reduce the discharge of pollutants."[102] Additionally, "opponents argue that a failure to achieve any aspect of the [PPP] . . . will subject a facility to substantial penalties."[103] Moreover, detractors of the new law contend that, "[d]ue to single instances of a violation that might be interpreted on a monthly basis," courts might assess penalties "as though violations occurred throughout a 30-day period when, . . . the actual episodes of violation might be confined to a more limited number of days."[104] In response, though, supporters claim that such measures are necessary, as many facilities currently fail to comply with a voluntary reporting program.[105]

Due process concerns are also part of the controversy surrounding Chapter 93. Opponents insist that Chapter 93 "does not include adequate provisions for due process": specifically, the chance for a POTW or another discharger "to respond to violations prior to the imposition of a penalty."[106] Additionally, opponents argue that no proof exists to show that the imposition of penalties reduces pollution or increases water quality.[107] Opponents are especially averse to the assessment of minimum mandatory penalties, arguing that POTWs and regional boards are

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99. *See supra* Part III.B (discussing Chapter 93's pollution prevention mechanisms).

100. *See supra* Part III (detailing Chapter 93's monitoring and regulation of dischargers).

101. ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS, COMMITTEE ANALYSIS OF AB 50, at 3 (Mar. 23, 1999).

102. *Id.* at 3; *see* ASSEMBLY COMMITTEE ON APPROPRIATIONS, COMMITTEE ANALYSIS OF AB 50, at 2 (Apr. 28, 1999) (estimating [p]otentially significant costs of up to $1 million over two years, to state and local dischargers that must comply with PPP requirements").

103. ASSEMBLY COMMITTEE ON ENVIRONMENTAL SAFETY AND TOXIC MATERIALS, COMMITTEE ANALYSIS OF AB 50, at 3-4 (Mar. 23, 1999).

104. *Id.* at 4.

105. *Id.*; *see id.* (highlighting a recent audit by the Department of Toxic Substances Control, *Chemical and Allied Products Industry Hazardous Waste Source Reduction Planning Assessment Report*, which indicated that "'many chemical manufacturing and pharmaceutical/biological facilities were noncompliant with SB 14' (a voluntary reporting program"), and that "the most serious problems were failure to identify specific source reduction measures and lack of discussion regarding the criteria used to evaluate source reduction measures").

106. *Id.*

107. *Id.* at 5.

already allowed to impose civil monetary penalties.[108] Further, opponents insist that problems with water quality are directly related to ineffectual enforcement of water quality statutes—an issue that they feel the state water board should address internally.[109] On the other hand, supporters claim that adequate protections against board penalties exist, and further argue that courts may examine individual cases with full and independent judgment.[110]

The Legislature has found that the sources of California's water quality impairments are diverse,[111] and that current enforcement efforts to clean California's waters have fallen short of their objectives.[112] The Legislative decision that pollution should not pay is reflected in Chapter 93's minimum mandatory penalties and the section 13385(e) decree that polluters will not realize economic benefits from acts that pollute.[113] This strategy correctly places the cost of pollution where it should rest—on those businesses that contribute to environmental degradation for the sake of cutting costs and maximizing profits.[114] Because courts may adjudicate cases with full and independent judgment, the concerns of Chapter 93's opponents regarding miscalculated or excessive penalties should be assuaged by the fact that California's courts will be able to arrive at a fair penalty.

V. CONCLUSION

Chapter 93's answer to water quality impairments in California includes increased supervision, prevention, and punitive measures.[115] However, these

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108. *Id.*

109. *Id.*

110. *Id.; see id.* (explaining that the Administrative Procedures Act is available to those appealing civil penalties imposed by one of the boards); *see also id.* (stating that this appeals process allows for the "cross-examination of witnesses, full evidentiary hearings, and the right to petition the State Board").

111. *Supra* text accompanying note 66.

112. *Supra* text accompanying note 26.

113. *See* CAL. WATER CODE § 13385 (e)(amended by Chapter 93) (stating that "[a]t a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation").

114. The idea that the cost or effects of an activity is not completely absorbed by the person doing the activity, but is, at least in part, endured by the public as a whole, is a concept generally known as "externalities." *See generally* JESSE DUKEMINIER & JAMES E. KRIER, PROPERTY 47-51 (4th ed. 1998) (explaining that externalities generally exist when someone decides how he or she is going to use a resource but does not fully account for the effects of this decision, ignoring these costs of the activity because the costs fall on others). Consequently, resources are misallocated and misused, resulting in less efficient use of resources. *Id.* A related concept, known as "The Tragedy of the Commons," advances the theory that people, seeking to maximize personal gain, will pursue their own best interests to the detriment of the carrying capacity or "sustainability" of a "common" resource. Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1244-45 (1968).

115. *See supra* Part III (detailing Chapter 93's minimum liability, mandatory minimum penalties, annual reports, and pollution prevention plans).

measures address only half of California's water quality problems.[116] For instance, a sewage treatment plant discharging into a POTW will face increased scrutiny, while farmers may continue to pollute without legal consequence under Chapter 93.[117]

However, the answer to solving the State's nonpoint source pollution problems is much more complex than simply increasing supervision and penalties for noncompliance.[118] It involves the careful balancing of two major competing California interests—the desire for a clean environment and the maintenance of the State's powerful and massive agricultural industry.[119] Without laws requiring compliance with nonpoint source pollution prevention measures, change is bound to come slowly at best. Ironically, those who will first pay the price of nonpoint source pollution are the farmers themselves through the decreased utility and productivity of once-rich farmland.[120] Chapter 93 may prove an effective means to address point source pollution; however, the task of preventing nonpoint source pollution remains a tricky challenge for California lawmakers, scientists, and farmers alike, and, as such, nonpoint source pollution falls outside the purview of the new law.[121]

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116. *See supra* text accompanying note 76 (explaining that nonpoint source pollution is responsible for roughly half of California's water pollution); *see also supra* note 60 (revealing that Chapter 93 gives little incentive for nonpoint source polluters to decrease pollution).

117. *See supra* note 60 (stating that every Water Code section amended by Chapter 93 is designed to remedy discharges from point source polluters, leaving nonpoint source polluters largely unregulated).

118. *See supra* note 94 and accompanying text (stating that the challenge of controlling nonpoint source pollution, especially from agricultural discharges and run-off, involves many factors and has frustrated lawmakers, farmers, and environmentalists).

119. *See supra* note 89 and accompanying text (asserting that monitoring and controlling nonpoint source pollution is possible, but that this involves regulation of agricultural run-off); *see also supra* note 95 (observing that a flexible approach to controlling agricultural nonpoint source pollution is needed, and that this approach must include steps to ensure that water quality goals are achieved in a way which will minimize pollution control costs to farmers and accommodate site-specific conditions).

120. *See supra* notes 73-77 and accompanying text (showing that agricultural activities contribute to the decline in farmland productivity).

121. *See supra* note 60 (stating that because none of Chapter 93's enforcement efforts are aimed at nonpoint source polluters, such polluters under the Chapter 93 scheme will have little incentive to curb their own pollution).